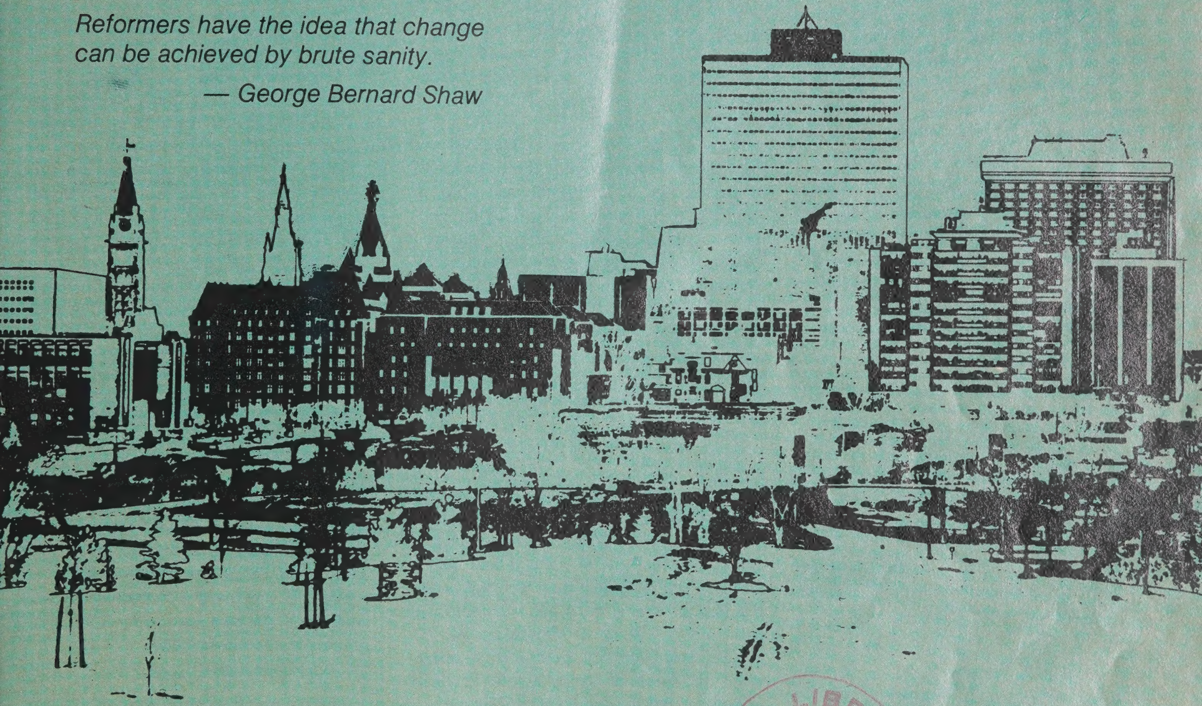
au courant

Economic Council of Canada

RESPONSIBLE REGULATION

Reformers have the idea that change can be achieved by brute sanity.
— George Bernard Shaw



The Pension Mountain

The Impact of Inflation

The Deceptions of "Unemployment"

Volume 1, No. 1 Spring, 1980

About the Economic Council. . . and *Au Courant*

Au Courant is a new publication of the Economic Council of Canada (replacing the old *Bulletin*) and is designed to inform the general public about the Council's recent publications and its current program of research on various economic issues.

This first issue focuses on the three most recent consensus reports of the Council:

Two Cheers for the Eighties, the 16th Annual Review of the Council, was issued in October 1979 and now is in its second printing. The Review dealt with the impact of inflation on households and businesses, federal-provincial financing, and economic projections to 1985. Its findings are summarized over the next five pages.

One in Three: Pensions for Canadians to 2030, published in November 1979, is a comprehensive look at the economic implications of the whole Canadian pension system, and how it might be improved — without damage to the economy — in the future. Abstracts of this report appear on pages 17-22.

Responsible Regulation: An Interim Report by the Economic Council of Canada, released last December, is the first of a two-part study on the impact of regulation of Canadian economic activity, requested by First Ministers. Excerpts appear on pages 10-13.

Information on how to order these and other recent publications of the Council will be found in the centre insert.

Current Research Projects

The Council's highly successful 1977 report *Living Together: A Study of Regional Disparities* gave rise to a request by the Newfoundland and federal governments for a detailed study of the Newfoundland economy. That project is well advanced, and the Council's report is scheduled for publication this Summer. A project report appears on page 23.

Approximately 40 research projects are under way in connection with the second phase of what the Council calls "the regulation reference," and the final report of the Council itself has been requested by the Prime Minister by the end of this year.

These and other projects of the Council typically generate a large number of supporting analytical studies and papers of one kind and another, and more than 50 such documents have been published over the past year. The more recent ones are listed on the insert. New studies and papers will be announced in future issues of *Au Courant*.

Renewing the emphasis of its work in earlier years, the Council has recently expanded its research on economic growth and productivity in Canada, with current studies now focused in two broad fields:

1. At *the level of firms and industries*, the Council is now completing a survey of innovation and technological innovation in five industries (crude oil production, nonferrous smelting and refining, plastics, industrial electrical equipment, and telecommunications equipment). The objective is to develop recommendations for government policies to encourage innovation and technological advance in Canadian firms, and to assist their adjustment to the changing domestic and international economies.

2. For *the economy as a whole*, research now is directed at such questions as ways of measuring potential skill shortages in the 1980s, of improving the quality of capital equipment, of adjusting to higher energy costs, and the use of such broad policy levers as trade, competition, tax, and incentive policies to improve Canadian industrial performance. Work is also under way to explain inter-industry productivity differences in terms of such factors as tariff protection and the degree of concentration.

A preliminary report of this productivity work will be included in the Council's 17th Annual Review, to be published next fall. More detailed reports will come on stream in 1981 and 1982. Included will be a major Council report on Canadian *labour markets*, arising from current research to identify new policy approaches in such fields as manpower training, education, wage structures, job-search mobility, job creation, and the private and public institutional aspects of labour markets.

Continuing *regional studies* at the Council are aimed toward recommending how governments can influence the forces underlying regional economic development and economic change, and reduce income disparities among the regions. One important emphasis of this work relates to "fiscal federalism" (see page 5), which has both economic and consitutional implications, and which the Council is considering as the central theme for a major report in 1981. A substantial part of the existing federal-provincial financial arrangements expire in 1982.

As an outgrowth of its work on pension funds in *One in Three* and its 1976 report and recommendations on deposit-taking institutions (*Efficiency and Regulation*), the Council's current research on financial markets is centred on government's role as a financial intermediary. A report on this project is due in 1981 and will make recommendations on the most efficient and least costly ways of stimulating general industrial development (particularly that of small and medium-size businesses), financing exports and house construction, and providing support for farms and fisheries.

The Economic Council of Canada is an independent advisory body established by Parliament in 1963 with broad terms of reference to study and report on a wide range of matters relating to economic development. The act requires the Council to make an annual review of the country's economic problems and prospects, and empowers it to conduct other studies on its own initiative or at the request of the Government, and to publish reports as it sees fit.

The Annual Report of the Council for the year 1979-80 will soon be available, without charge. It includes a full list of Council publications, the most recent of which are listed on the insert to this issue of *Au Courant*. Also available shortly will be a final report on the activities of the Centre for the Study of Inflation and Productivity, set up in 1978 under the aegis of the Council as a post-controls monitoring agency. Although CSIP was discontinued in 1979, most of its research projects were completed by the Council. A few of these are abstracted on pages 14-16. A more complete list of CSIP Discussion Papers appears on the insert.

The older and richer you are, the worse it hurts

The elderly have fared badly during the past decade of inflation, but younger and middle-income families have not been affected so much. Changes in government transfer payments, most of which are indexed to the cost of living, have given good protection against inflation to low-income families. Investment income, on the other hand, has not kept up with inflation and because this kind of income is concentrated among the higher income groups, they have not been as well protected against inflation.

These facts come to light in a study by University of Montreal economist Marcel Boyer, prepared as a working document for the Economic Council's 16th Annual Review. Boyer's analysis looks at the relative position of households in the light of Canada's inflation experience between 1969 and 1978. Families were grouped first according to their income level and then according to the age of the family head. The impact of inflation was measured by specially calculated cost-of-living indexes, using 1969 as a base year.

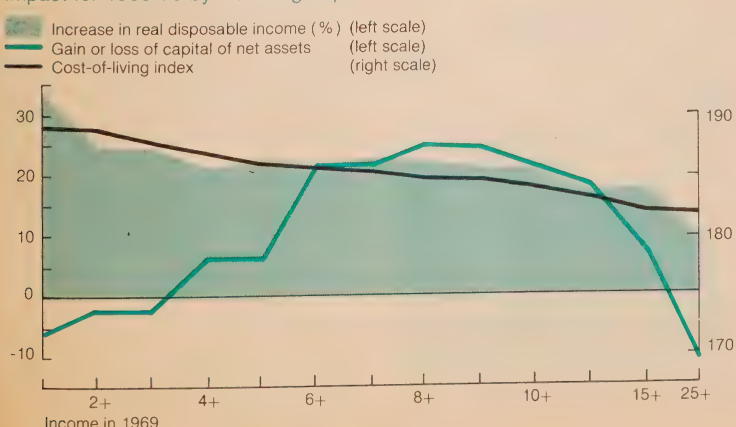
The charts show the results of Boyer's investigation. In each case, three measures are given: the cost-of-living index for the various groups; the increase in the amount of after-tax income that groups had available to spend, excluding the effects of inflation (real disposable income); and the gain or loss in the value of their net assets, such as houses, savings and investments.

When households are grouped according to income class (see chart below), Boyer finds that:

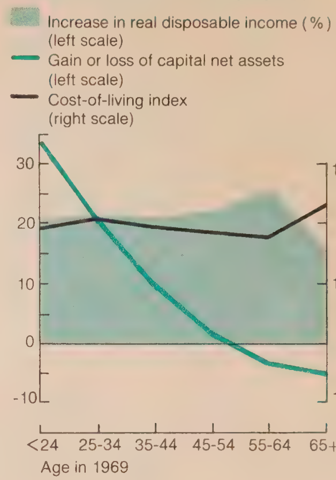
- The cost of living rose faster for lower income households, whose total income in 1969 was less than $3000.
- The income that these groups had left to spend, excluding the effects of inflation, grew much more rapidly than it did for the higher income groups, showing that increased government benefits did protect them from inflation to a large degree.
- Middle-income families were in much better financial shape by 1978 than either the lower or higher income groups largely because their major asset, the family house, increased in value over the period.
- Although higher income families were not as well protected because of their investment income, the families with the highest income had $5609 more of real disposable income in 1978 than they did in 1969, compared to the $712 increase that went to lower income families.
- For the latter part of the period, from 1975-78, all the income groups suffered small capital losses and none of them was able to achieve much of an increase in the amount of after-tax income they had left to spend, excluding the effects of inflation.

The second chart shows the relative position of families when they are grouped by the age of the family head. The situation of the elderly comes through clearly. By 1978, older people were worse off right across the board. Their sources of income, such as pension benefits and investments, did not keep up with growing inflation. By 1978, families headed by someone over 65 had less real disposable income than they did in 1975.

Impact for 1969-78 by income group



Impact for 1969-78 by age group



Younger families fared much better. Families headed by someone in the 55 to 65 age group made the largest gains in real disposable income. But the overall improvement in their financial situation was not nearly as large as it was for families headed by younger individuals. Here again, the rise in value of the family house, the "star performer" of the decade in Boyer's view, explains why these families did so well.

Indexing

The results of his analysis have led Boyer to the conclusion that our present system of indexing of wages, government benefits and tax returns, only provides Canadian families with partial protection against inflation. This kind of indexing allows families to cope with increases in their living costs on a day-to-day basis. But over time it does not provide safeguards for a family's financial well-being. Lower income families certainly had more income to spend by 1978 despite inflation, partly due to the indexing of government benefits. But their financial situation deteriorated even so. Following the example of other countries and indexing investments and securities may well change this situation, Boyer says.

Abstracted from *L'impact des périodes inflationnistes 1969-1975 et 1969-1978 sur la position relative des ménages au Canada* by Marcel Boyer, Discussion Paper No. 149.

Savings are high. Should they stay high?

Have we missed a good economic bet in Canada by having tax and other policies that encouraged a high rate of personal savings? Should we change these policies now?

Less personal saving over the past several years would have meant more vigorous economic growth, stimulated by higher consumer expenditure. But it also would have spelled more inflation. The balance-of-payments deficit would have been larger. And the depreciation of the dollar might have been more disruptive than it was.

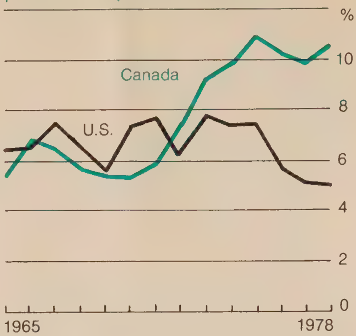
The present setting for savings is the right one, the Economic Council of Canada believes. In *Two Cheers for the Eighties*, its Sixteenth Annual Review, the Council concludes:

The needs for investment in Canada are large, and less reliance on foreign saving may be called for. A continued high rate of personal saving can contribute to meeting those needs.

Canadians now are putting just over 10 per cent of their disposable incomes into savings of various kinds — home, pension plans, bank deposits, securities, other financial assets — compared with a range of 5 per cent to 6 per cent through the 1960s and early 1970s. The contrast with the United States experience is striking (see chart) and can be traced to basic differences in the "insitutional settings" in the two countries.

In the United States, interest earnings are taxed as income and interest expenses are tax-deductible. Thus for the average U.S.

Personal savings as a share of personal disposable income



taxpaying family there is a big subsidy on the cost of borrowing and a severe penalty on financial savings. Through much of the 1970s, U.S. prices were rising by around 8 per cent a year (and faster now), interest on bank deposits was held below a 5¼% ceiling, and mortgage rates were kept in the range of 8½% to 9½% (and only recently were allowed to float upward). Taking account of income taxes on interest income, it became impossible for the small saver to earn enough interest to keep up with inflation. The real cost of borrowing, meanwhile, was actually negative. Spending was encouraged, and the Americans experienced a consumer-led economic expansion while Canada stayed in the doldrums of stagflation. But now the United States is confronting excess demand, an economic downturn, and double-digit inflation.

In Canada, on the other hand, borrowing was discouraged with high interest rates, and — though the inflation rate was slightly higher than in the U.S. through most of the 1970s — the average household could keep one step ahead by adding tax-free, high-interest earnings to its savings deposits. The first $1,000 of annual interest income has been tax-free since 1974. Moreover, Canadians have been able to get large tax subsidies on amounts set aside in RRSPs and RHOSPs.

The Canadian experience is not without cost. In addition to the above tax concessions, the federal government over the late 1970s cut income and sales taxes to stimulate the economy, only to see increased disposable incomes shifted into savings instead of spending. The government deficit rose. Thus those in a position to take advantage of the tax concessions increased their own wealth, but for Canadians as a whole this is largely offset by the large federal claim on future incomes, as described on the facing page.

Through savings the Canadian public has accumulated a vast amount of highly liquid spending power. With continuing inflation spurred by rising oil prices, it would not be surprising if the Canadian savings rate were to decline. As an offset to a U.S. recession it would be welcome. But there is no guarantee that the size and timing of consumer reactions will fit Canadian economic needs. The Economic Council has concluded that, "when the consumer is nervous, the time is not right for tinkering with the tax treatment of savings".

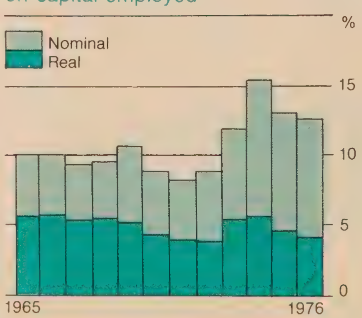
How inflation distorts profits ...

One of the most insidious effects of recent inflation in Canada has been the distortion it has caused in published reports of corporate profits.

Real profits *have* increased recently in various business sectors, especially in those in a position to benefit from the lower exchange rates on the Canadian dollar. But as the charts here show, there remains a large gap between *real* profits of the late 1970s and the *nominal* figures shown in corporate financial statements.

This situation was reviewed by the Council in *Two Cheers for the Eighties* and will be covered in more detail in supporting research papers to be published later this year.

Corporation rates of return on capital employed*



*Non-farm, non-financial

The main cause for the disparity is the treatment in Canadian accounting practice of depreciation expenses — those amounts that every corporation must set aside for the replacement of depreciating assets when their useful lives have ended. The present practice is to use the *historical* cost of these assets, rather than their *replacement* cost. As these two values are driven further apart by inflation, corporate expenses are understated and *nominal* profits are consequently higher than would be shown otherwise.

There are other factors in the gap between real and nominal profits in the late 1970s. One of them is the tax treatment of inventories, which assumes that a firm puts

The federal fisc — strained to the limit

In effect, the Government of Canada now is carrying the whole deficit burden of all government operations in this country — municipal and provincial, as well as federal.

At the same time, federal expenditures are so heavily "locked in" to massive, obligatory transfers to individuals and the provinces — spending that is almost completely indexed to inflation — that the federal government's ability to influence the direction of the economy through fiscal policy has become severely constrained.

This is not some kind of temporary quirk in the accounts of the government sector of the Canadian economy. On the contrary, it is likely to persist, according to the projections made by the Economic Council in its most recent Annual Review, *Two Cheers for the Eighties*. (For projections see overleaf).

The problem requires political resolution, and soon, the Council believes.

"Without such action, the government's management of the economy will become increasingly powerless, to the peril of the country as a whole and the welfare of every Canadian."

The round numbers look like this:

This year the federal deficit is expected to be about $12.5 billion, on a National Accounts basis. The all-province surplus would be $2.5 billion (Alberta's huge, growing surplus offsetting a $600 million deficit in all other provinces combined). The Canada and Quebec Pension Plans will generate a surplus of $2.8 billion. The overall government-sector deficit would thus be about $7.1 billion.

Next year the federal deficit would be about $11.9 billion, the all-province surplus would emerge as $4.5 billion (Alberta at $4 billion and the other provinces moving into surplus in total) and the CPP and QPP surplus would be $3.1 billion. The overall government sector deficit would therefore dip to around $4.3 billion.

By 1985 the government sector could be expected to generate a $2.2 billion surplus: The CPP and QPP funds would be ahead by $4.2 billion, Alberta would have a surplus of $4.3 billion, the other provinces would be in overall surplus by $4.2 billion — but the federal deficit would persist, at roughly $10.5 billion.

A lot could happen between now and then to cause *some* change in these numbers —major, unforseen, economic developments here or abroad, for example. But the large federal deficit will remain in place — even with major changes in taxes (as the projections on page 7 show) — unless there is a substantial revision in federal-provincial financing.

Behind the situation are a number of developments:

- Government spending grew from one-fifth to over two-fifths of Gross National Product over the post-war period (though even this doesn't tell the whole story because of so much government involvement in commercial activity through utilities, Crown corporations, and various joint ventures).
- The biggest increases were outside federal jurisdiction: provincial, municipal and hospital expenditures are now 1½ times those of the federal government, and now take a quarter of GNP compared with a tenth 20 years ago.
- "Fiscal imbalance" developed in the 1960s when Ottawa had the bulk of direct tax revenues, while spending emphasis shifted to domains that are largely provincial — education, health, welfare. Under federal leadership, federal-provincial finances were rearranged. Ottawa's role in social security for the elderly and unemployed was expanded, and it picked up large shares of spending on hospital and medical care, post-secondary education, and social welfare. The CPP funds were loaned to the provinces. The equalization grants were further developed.
- The federal government in this way became the driving force of a massive income-transfer mechanism that now absorbs *more than half* of all federal spending, compared with one-quarter 20 years ago. These expenditures are not only statutory, they are in most cases fully indexed. As Ottawa's discretionary budget power declined, the centre of economic gravity in the public sector shifted to the provinces. Concluded the Council:

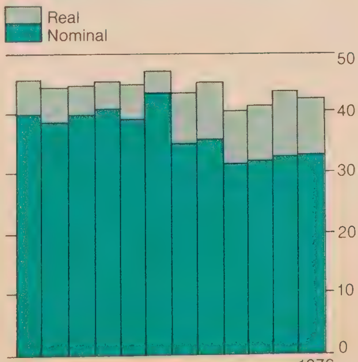
"The issues this development raises are political rather than economic, although the way in which they are resolved will have a bearing on the nature of economic management in the country. The federal government is in a poor position to continue to play its major role in economic management, equalization of provincial revenues, and the conduct of major national policies. In most areas of economic policy, achieveing national objectives will require extensive provincial participation, or these objectives may never be met. There is an urgent need for more co-operation."

... and corporate taxes

its raw materials into production in the approximate sequence in which they were acquired. Under inflationary conditions the firm's taxable profits will be overstated, because its inventory costs — reflecting acquisition rather than current costs — have been *under*stated. Other factors include the inflation effect on corporate debt and working capital.

Historical-cost depreciation remains the largest element in the profit distortion, however, and the Council has urged accounting bodies to expedite their efforts "to develop and implement methods of financial reporting better able to reflect the effects of inflation on the corporate financial position." The Council does *not* favour any sudden break with past practices; it favours development of new ways to *augment* rather than replace traditional reporting systems to make them more realistic.

Effective corporation tax rates*



*Non-farm, non-financial

More critical for corporations is the effect on taxation. Although the gap between nominal and real effective tax rates is charted here only to 1976 on the basis of official data, the Council's own survey indicates that the situation continued in 1977 and 1978. The Council has called for a re-examination of corporate tax legislation to create a tax base that more closely approximates *real* profits and which would offer more certainty about taxes than now exists, with frequently changing special allowances and incentives.

Policy options reduced; structural changes needed

The Economic Council can see no "quick fix" to the country's present economic situation.

"In Canada we have persistent inflation, energy-related problems, a poor federal fiscal position, apparent slowdown in the rate of potential economic growth, a weak but inflationary international environment, and relatively low levels of capital investment," the Council concludes in *Two Cheers for the Eighties*.

As the projections on the facing page show, there is considerable underlying strength in the economy, but no "package" of policies can be devised that would greatly improve one area of economic performance without making another area worse.

For example, the Council's simulations show that demand-side policies to stimulate investment and encourage consumption would reduce unemployment and improve productivity and real wages, but at the expense of higher rates of inflation, larger trade deficits, and larger government deficits. Restrictive policies, on the other hand, would reduce inflation and strengthen Canada's balance-of-payments position, but would bring higher unemployment rates and slower growth of productivity and output — without much improvement in the government deficit.

In these circumstances the Council argues for a general setting of government policies that would aim for gradual, steady improvement over the next several years. Major elements of that strategy would include:

1. *Reduction of uncertainty*. Lack of predictability of policy in such areas as government spending, tax policy and regulations — together with the volatility of the world economy, high and unpredictable rates of inflation, and uncertain growth prospects — have all weighed against risk-taking and private economic initiative. Improvement in this area should include more openness of government information, including assessment of medium-term economic prospects and planning.

2. *Avoidance of "shocks"*. A main feature of the strategy proposed by the Council would be a clear, determined, gradual adjustment over several years in fiscal and monetary policy, in energy pricing, in trade and industrial policy, and in manpower and social policy. In short, governments should "follow a steady policy course and make it well understood."

3. *Structural changes*. Adjustments of a "structural" nature are needed in government fiscal imbalances, the balance-of-payments deficit, business taxation, labour market imbalances, and in the pricing, supply and use of energy. "Such problems evolve slowly," the Council observes; "so does their resolution." But delay in dealing with these problems would entrench them, and make them more difficult to resolve without disrupting the economy.

4. *Extend governments' room for manoeuvre*. By this is meant the improvement of the capacity of governments to deal with problems and shocks. The Council sees opportunity for such improvement in various areas including the structure of taxation, federal-provincial fiscal arrangements, foreign trade and tourist policies, and industrial development policies.

In general, it is a strategy that is less ambitious for economic growth than would have been chosen a few years ago. Its essence is "steadiness on a well-plotted, well posted course."

"If we know better what lies ahead, avoid adding to uncertainty and instability, prepare for future problems, and improve government's capacity to manage the economy, we can view the new decade as deserving modest optimism — and at least two cheers."

The rationale for higher oil prices

For many years now Canada has chosen to have domestic prices for electricity, automobiles, and agricultural products, that are different from world prices.

Why not do the same with oil? Could we not set out to capture the competitive advantage offered by oil prices that are held below the world level — as they are now?

That strategy cannot be accepted for two reasons, in the view of the Economic Council of Canada.

One reason is that present Canadian petroleum supplies are derived from conventional sources developed at relatively low cost. As they are used up — and they are being depleted rapidly — they will have to be replaced at much higher costs, more in line with world market prices. Thus eventually Canadians will have to pay much higher prices, and the Council's view is that this difficult adjustment is better made now than later "when the shock of a rapid transition would result in much higher economic costs and potentially great economic disruption."

The Council believes also that higher prices will promote both the development of other sources of energy that will be needed in the future, and conservation of existing supplies.

But the price increase should not be made too rapidly:

"The adjustment of consumption and production of energy to higher prices is bound to be spread out over years, perhaps decades; it involves new technologies, replacement of equipment, and development of new supplies. The transition to higher prices also has economic impacts in the short run that are roughly proportional to the speed of the increase. Higher prices will contribute to inflation, and reduce real disposable income. There is a risk that they would unleash a serious wage-price spiral with effects on activity levels and unemployment that are unlikely to be fully offset by rapid recycling of oil revenues. Furthermore, more rapid increases than in the United States would, through their effect on competitive positions, disturb our trade."

For these and other reasons the Council recommends that Canada move gradually to reach world oil prices that are expected to prevail around 1985 or 1986. At the time *Two Cheers for the Eighties* was issued last October that would have meant increases averaging around $4.00 per barrel per year, on the assumption that world oil prices would rise 40% in 1979, 25% in 1980, and 7% a year thereafter. Although a year-end OPEC increase brought the 1979 over-all gain to over 40% the general pattern of the simulations on the next page is not greatly affected.

Outlines of the Canadian economy to 1985

Economic indicators as they could emerge in 1980-85 — under key assumptions about events here and abroad — were simulated last fall by the Council, using its updated model of the economy, called *CANDIDE 2.0*. Results are shown below.

The exercise showed that major shifts in policy would be required to achieve relatively minor changes in the direction of the economy, given the momentum of current developments.

Even the *gradual* oil-price increases recommended by the Council would delay the needed recovery of the economy, depressing the growth of real incomes. Inflation would be worse, and productivity would recover more slowly from recent declines.

Moreover, the ability of governments to cope with these problems was judged by the Council to be constrained by widespread indexing of incomes and taxes and the fiscal imbalances described on page 5, labour-market circumstances (see next page), and the overwhelming impact of the international economic situation.

In making its oil-pricing simulations the Council assumed (1) something close to U.S. economic stagnation this year, with an upturn in 1981, and relatively slow growth in other OECD countries; (2) heavy energy-related investments in Canada over the projection period; and (3) no change in present economic policy, with continued restraint in government spending and a money-supply growth of 9% a year.

The "$4 projection" in the table is the one described on the preceding page. The "$7 projection" means parity with world prices by 1982. The "$2 projection" is merely a reference base for the reader; because it assumes no post-1978 world or domestic price increases beyond those to match inflation, it is itself totally unrealistic and, of course, already overtaken by events.

The "reference projection" in the table takes the $4-a-barrel annual increase in domestic oil prices as the preferred path, and adds one major new policy that was being discussed in October when the simulations were done — namely, the mortgage interest and property tax credit.

On this base the other simulations were built, in the sequence shown in the table. The "highly stimulative" policy package allows for increased investment tax credits and a reduction in the corporate tax rate (together reducing tax revenues by $3 billion in 1980-85) *and* a $[illegible] billion cut in personal income taxes in 1981-85. "Stimulative" excludes the cut in personal income taxes, but retains the cut in corporate taxes and the higher investment tax credit. The latter measures are also retained in the policy option called "investment stimulus plus offset", but their depressing effect on tax revenues is partly offset by a $4.5 billion increase in personal income taxes. "Restraint" brakes the economy with the latter increase in personal income taxes *plus* a reduction in the annual growth in the money supply to 6% from the 9% assumed in the "reference projection".

	1980	1981	1982	1983	1984	1985
	(Percentage Increase)					
Gross National Product (1971$)						
$2 projection	2.6	4.9	4.9	3.5	3.8	3.3
$4 projection	2.7	4.6	4.5	3.0	3.3	3.0
$7 projection	2.5	4.3	4.3	3.0	3.4	3.0
Reference projection	2.9	4.9	4.9	3.3	3.5	3.1
Highly stimulative	3.3	5.9	5.3	3.9	3.8	3.4
Stimulative	3.3	5.5	5.3	3.7	3.7	3.3
Investment Stimulus plus offset	3.3	4.4	5.1	3.1	3.4	3.0
Restraint	2.4	3.7	4.2	2.6	3.1	2.9
Consumer Price Index						
$2 projection	7.9	7.3	7.0	7.0	6.7	6.7
$4 projection	8.6	8.5	8.5	9.0	8.3	8.0
$7 projection	9.6	9.5	9.2	8.8	7.6	7.2
Reference projection	8.6	8.5	8.7	9.2	8.7	8.4
Highly stimulative	8.2	8.4	8.7	9.6	9.2	9.0
Stimulative	8.2	8.4	8.6	9.4	9.0	8.8
Investment stimulus plus offset	8.2	8.4	8.4	9.0	8.5	8.3
Restraint	8.3	8.6	8.5	8.6	8.0	7.7
Productivity						
$2 projection	1.0	2.2	1.9	1.3	1.8	1.9
$4 projection	0.8	1.8	1.7	0.9	1.8	1.6
$7 projection	0.4	1.6	1.7	1.2	2.0	1.8
Reference projection	0.9	1.9	1.8	1.0	1.8	1.7
Highly stimulative	1.3	2.4	2.0	1.2	2.1	1.9
Stimulative	1.3	2.2	2.0	1.2	2.0	1.9
Investment stimulus plus offset	1.3	1.5	2.0	1.0	1.8	1.8
Restraint	0.6	1.1	1.5	0.7	1.6	1.4
Real wage deficit						
$2 projection	0.8	1.3	1.6	2.2	2.7	3.0
$4 projection	0.5	0.7	1.1	1.3	2.5	2.6
$7 projection	-0.5	0.4	1.2	1.9	3.1	2.9
Reference projection	0.5	0.7	1.1	1.4	2.8	2.9
Highly stimulative	0.8	0.6	1.3	1.6	3.5	3.8
Stimulative	0.8	0.6	1.3	1.5	3.2	3.5
Investment stimulus plus offset	0.8	0.7	1.2	1.4	2.7	2.9
Restraint	0.5	0.3	0.4	0.7	1.8	1.9
	(Per cent of GNE)					
Federal deficit						
$2 projection	4.0	3.3	2.5	2.1	1.7	1.5
$4 projection	4.3	3.7	3.0	2.7	2.4	2.1
$7 projection	4.2	3.6	3.0	2.7	2.5	2.3
Reference projection	4.4	3.8	3.2	3.0	2.7	2.4
Highly stimulative	5.4	5.2	4.6	4.3	4.0	3.9
Stimulative	5.4	4.8	4.2	3.9	3.6	3.4
Investment stimulus plus offset	5.4	3.7	3.1	2.9	2.6	2.3
Restraint	4.9	3.4	2.9	2.8	2.5	2.2

Labour Markets

Getting behind the official unemployment statistics

Canada's official labour force statistics — closely watched, hotly debated, and little understood — probably conceal as much as they reveal about the state of the economy.

Could policy-makers be led astray by a less than full comprehension of the meaning of these statistics? Is it possible, for example, that those responsible for our economy — taking their cue from the official unemployment rate — could stimulate consumer, business and government spending in an effort to create more jobs, only to find that the main result would be added inflation, or even an increase in the labour force exceeding the number of jobs created (that is, more unemployment)? The risk is there.

Three technical papers dealing with different aspects of the unemployment problem have recently been released by the Economic Council. The work of Tom Siedule and Keith Newton, these papers show:

- Substantial "hidden unemployment" — upwards of a quarter-million people who have been turned off by discouraging efforts to find suitable work, and therefore have ceased to look (and thus technically are not in the labour force, and not counted among the unemployed).

- Declining "cyclical unemployment" — that is, the proportion of total unemployment that can be attributed to real slack in the demand for labour. In the 1960s this factor accounted for about half of "official" unemployment (the balance being attributable to "frictional" and "structural" causes, discussed below). In the 1970s it dropped to less than one-third.

- Evidence of growing "labour hoarding" or underutilized labour — which is an estimate of the portion of employed labour that is in excess of the amount of labour required to produce the same output under the most favourable conditions.

From these findings, it can be seen that the unexpected can happen to the official unemployment rate when across-the-board policies aimed at stimulating aggregate demand are implemented. Some new jobs may indeed be created, but these may be fewer than expected since most of the additional work may be performed by underutilized workers who are already employed. In addition, previously discouraged workers (plus some new entrants) would be enticed into the labour market, swelling the labour force — and possibly the unemployment rates of some groups.

In addition, across-the-board attempts to stimulate demand and reduce unemployment also run the risk of fueling inflation. Some recent studies by the Council suggest that the largest part of "official" unemployment is not due to the weakness of demand in the economy. According to these studies it reflects "frictional" unemployment (mostly, people between jobs) and "structural" unemployment (a term that includes, among others, people who lack the kind of skills now in demand, or who — if they have such training and experience — do not live where the jobs are). The structural-frictional part of unemployment would obviously be resistant to broad policies aimed at stimulating demand, and if such policies were to bite too deeply into "demand-weakness" unemployment in particular sectors of the economy, the price of labour could be driven up.

So, what does this mean for overall demand policies intended to reduce "official" unemployment? It suggests, say the authors, that their scope is "rather limited;" the official unemployment rate is seen as "somewhat insensitive to traditional aggregate demand measures which might rather quickly trigger inflationary pressures."

"In any attempts to reduce unemployment, we therefore recommend cautious application of overall fiscal or monetary stimulus and greater attention to policies which are more finely targeted to particular groups, areas, or sectors."

(Specific recommendations for labour market policies were advanced by the Economic Council itself in its most recent Annual Review, *Two Cheers for the Eighties*. See opposite page.)

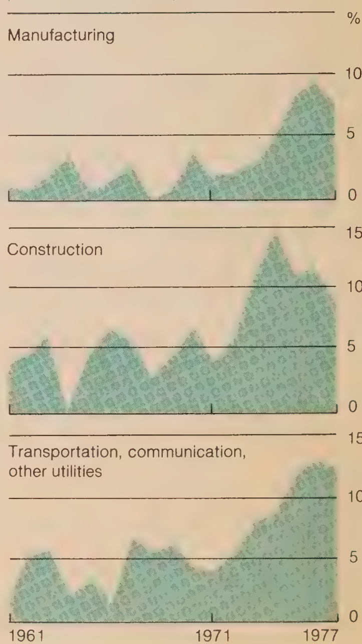
"Labour Hoarding"

In Canada, the average rates of "labour hoarding" over economic cycles were negligible in the 1960s, but have grown steadily since 1971. In cyclical downswings some labour hoarding took place; in cyclical upswings, output increased more than employment. In the 1960s these swings balanced out around a low labour-hoarding average. In contrast, much higher average "labour hoarding" is identified by Siedule and Newton in the 1970s, especially in the later 1970s. This is clear in the accompanying charts, which show the estimates of labour hoarding for various industries.

How do the authors measure it? Siedule and Newton take the following approach. First they start with the total output of an industry, and the man-hours used to produce that output. Then they calculate the man-hours that would have been needed to produce that amount of goods or services if the work force had been efficiently employed, taking account of the effect of technological change on labour productivity, and assuming the best utilization of the other factors of production was carried forward from past experience and circumstances. The difference between the two figures is a measure for that industry of the proportion of paid person-hours not used, for whatever reason, to the fullest extent — what the authors call "labour hoarding."

Labour Hoarding

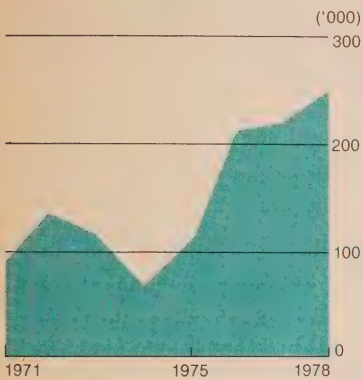
(Per cent of workforce)



What does labour hoarding really refer to? When we say that labour hoarding was increasing in the 1970s, what do we mean? In a sense, labour hoarding can be thought of as the "flip side" of the slowdown in the growth of labour productivity we have experienced over the last decade. Many different forces led to this slowdown, and although nobody is very confident about which ones are important, they certainly include the slackening in investment, the increase in the relative price of energy, and the growth in the proportion of inexperienced workers in the labour force.

From the viewpoint of the labour market, however, labour hoarding can, to some extent, be thought of as a rational decision by businessmen to keep their skilled employees and professionals on the payroll during an economic downturn, even if they are not entirely needed, simply because experience has shown that it is less costly to do so than it is to pay severance costs and then the costs of screening, hiring and training new people when the next economic upturn comes. In some cases, however, employers may simply want a labour "cushion" for the manpower flexibility it affords. In others, sheer management inertia or the misallocation of the other factors of production (capital, energy and materials) cannot be overlooked; neither can institutional constraints, nor what the authors call "the quest for a quiet life".

"Hidden" Unemployment



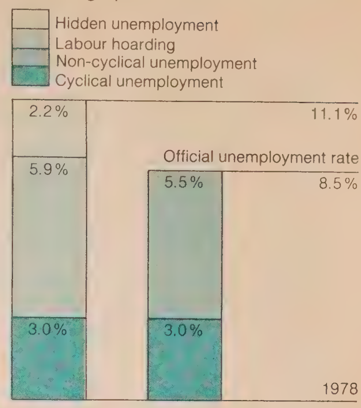
To a certain extent, as the authors note, labour hoarding constitutes a "privately financed example of a concept which is at present being rather hesitantly advanced on an experimental, publicly financed level — namely, work-sharing."

Hidden Unemployment

Another characteristic of the 1970s was that thousands of "discouraged workers" walked out of a soft labour market which did not offer them suitable jobs. Their departure in many cases was made less painful by unemployment insurance and the presence of more than one income-earner in the family.

The estimates by Siedule and Newton indicate that there were about 85,000 of these people in Canada in 1971. By 1978 the number had grown to 243,000. In other words, there were in the latter year, on average, about 27 "hidden" unemployed for every 100 listed in the official unemployment statistics.

Summing up . . .



The pattern of the "discouraged worker" estimates and estimates of how the unemployment rate would have appeared, had they been counted, are shown in the charts.

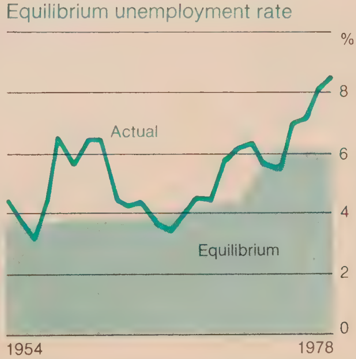
Abstracted from *Tentative Measure of Labour Hoarding*, Discussion Paper No. 128; *Discouraged and Additional Workers Revisited*, Discussion Paper No. 141; and *The Unemployment Gap in Canada*, 1961-1978 by Tom Siedule and Keith Newton.

The "equilibrium rate"

The condition of Canadian labour markets is a subject of continuing research by the Council, as indicated by the article on these two pages reflecting recent work by members of its staff. The Council itself in its 1976 report *People and Jobs* and its more recent Annual Review, *Two Cheers for the Eighties*, concluded that the largest part of Canadian unemployment was due not to the cyclical ups and downs of the economy but to "structural" factors.

Briefly stated, the situation arises because of the rapid growth of the labour force in the 1970s — the baby-boomers came of age, and more women sought work outside the home — and because of various social and economic policies, notably unemployment insurance and minimum wages. Mismatches developed between skills and jobs; or the jobs were in one region, the skills in another. New minimum-wage legislation limited the job chances of those new entrants with the least experience and skill. With unemployment insurance the way it is, the young and some women have less "job attachment" than adult men; they can afford to adopt other priorities, including family responsibilities, and for many that option has been made more attractive by the growth of the "subterranean" economy with its unreported income. For at least some people on the threshold of the labour market, the gap between what they can earn through gainful employment and that which they can obtain while not employed is just too small; the financial incentive to work has declined.

Equilibrium unemployment rate



The accompanying article describes one way of measuring the extent of "real" unemployment. Another approach — one also used by the Council itself in *Two Cheers for the Eighties* — is to assess the extent by which the "official" unemployment rate (now just over 7 per cent) could be reduced through stimulating economic activity without creating inflationary pressure in the labour market. The Council found very little room-for-manoeuvre. It estimates that, given the existing framework of labour and industry arrangements, any attempt to drive the official rate below 6 per cent by actions to stimulate spending by Canadians will risk an acceleration of inflation. The farther it is driven down below this level, the faster wages and prices will rise. In the economic jargon of the day this 6 per cent estimate is termed "the equilibrium unemployment rate."

But this does *not* mean that nothing can be done. Pointing to increasing skill shortages in prospect for the 1980s, the Council has called for early action to overhaul the country's occupational forecasting and training programs, preferably in government-union-employer collaboration. The Council's report also is critical of the current "shotgun approach to job-creation programs with their bewildering array of acronyms". It recommends the same tripartite approach to reshaping these programs so they would be "more selectively targeted to the changing needs of business", and calls for proper evaluations of the programs to be carried out and made public.

Regulation: the curate's egg (revisited)

Canada, like other western, industrialized nations, has become a regulated society. In the morning the clock radio awakens us with the sound of music subject to Canadian content regulations. The price, at the farm gate, of the eggs we eat for breakfast has been set by a government marketing board. We drive to work on tires that must meet federal minimum safety standards and in a car whose exhaust is subject to pollution emission regulations. At lunch, the restaurant in which we eat has been subject to the scrutiny of public health inspectors. The monthly rate for the telephone we use at the office is set by a federal or provincial regulatory agency. Shopping in the supermarket on the way home, we note the unpronounceable names of certain chemical preservatives that, by government regulation, are disclosed to us on a finely printed label. As we turn down the thermostat before retiring, we are confident that a government agency has protected our purse by setting the price we will be charged by the local monopoly supplier of natural gas. Putting on our sleepwear, we are secure in our knowledge that it is not impregnated with a hazardous substance like Tris. If we live in certain cities, we approach our rest reassured that the smoke detector we were required to install will stand on guard throughout the night. In the words of Samuel Pepys, "And so to bed." . . .

The Council defines regulation as the imposition of constraints, backed by government authority, that are intended to modify economic behaviour of individuals in the private sector significantly. Regulation is effected by government departments and by statutory regulatory agencies primarily through the use of statutes and subordinate legislation in the form of regulations. The scope of regulation in Canada is so great that it is difficult to think of an activity, good, or service that is not subject to government regulation, directly or indirectly. . . .

Who can be against regulatory reform? The evocative characteristics of the word "reform" alone should be enough to indicate the side on which the angels stand. The term is almost ready to be placed alongside "prison reform," "parliamentary reform," "educational reform," and "tax reform" in the pantheon of civic virtue.

With these opening paragraphs from *Responsible Regulation: An Interim Report of the Economic Council of Canada* we begin here a four-page summary of the report issued in November 1979. The study, requested by the Prime Minister in mid-1978, will lead to a final report by the end of this year. The project originated in the February 1978 meeting of the First Ministers, whose closing communiqué said in part:

"The burden of government regulation on the private sector should be reduced and the burden of overlapping federal and provincial jurisdiction should be eliminated. Procedures will be instituted to review the effects of regulatory action on jobs and costs. First Ministers agreed that the whole matter of economic regulation at all levels of government should be referred to the Economic Council for recommendations for action, in consultation with the provinces and the private sector."

Consultation by the Council has been and continues to be extensive, involving governments, their departments and agencies, the business community, labour organizations, and consumer groups. Project Advisory Committees have been set up for each of the Council's 12 fields of research, shown in the panel opposite.

The issues are many, large, and complex. As one American observer has remarked, "agreement that some government regulations are good and others are bad is about the full extent of the consensus on the subject." The Council as well found a wide spectrum of views:

> To many observers, government regulation has become too pervasive, has grown too rapidly, and much of it may be either ineffective or too costly in relation to its benefits. . . .
>
> . . . a small number of issues are identified as problems by all the different groups, including business, labour and consumer groups. However, in most cases, they have differing perceptions of just *what* constitutes "the problem," and, therefore, what should be "the solution". Second, a larger number of issues are seen as central by one group but are not included on the lists of the others. People are talking past each other, in some cases, in a different language. Third, there are some important issues associated with government regulation and regulatory reform that are not addressed by any of the parties consulted. . . . Fourth, because conflicting positions have been taken by different actors, and because these positions need not be based on well-established facts, attempts to reform regulation will be fraught with difficulty. The difficulty is compounded to the extent that changes in regulation imply economic gains for one group and significant economic losses for another. In cases in which there will be clear winners and losers from a change in public policy, the *status quo* may become more attractive.

Research Study Areas

Framework Studies

- The Growth and Changing Scope of Regulation
- The Objectives of Government Regulation
- Alternative Techniques for Achieving Regulatory Objectives
- Approaches to the Evaluation of Regulation
- The Regulatory Process

Specific Studies

(a) By Type of Regulation
- Occupational Health and Safety
- Hazardous Products
- Land Use/Building Codes
- Environmental Protection

(b) By Industry

(i) Structurally Competitive
- Trucking
- Taxi Cabs
- Agriculture
- Marine Fisheries

(ii) Other
- Automobiles
- Telecommunications
- Food Processing, Distribution and Retailing
- Airlines
- Prescription Drugs

(c) At the Level of the Firm
- Costs of Compliance

... regulatory reform is a curate's egg. Some parts of it will be judged good by some observers and bad by others. To quote *Punch*,

"I'm afraid you've got a bad egg, Mr. Jones."

"Oh no, my Lord, I assure you! Parts of it are excellent."

The views taken by the different groups indicate that it is safe to say that regulation is a subject about which there is little consensus. Almost everyone would agree that there should be rules that would prevent babies from being deformed by mercury poisoning, and few would argue that some of the sillier or obsolete items on the "statute" books should not be removed. But such clear-cut issues are the exception rather than the rule. . . .

Regulation is seen by some businessmen as imposing large costs on their enterprises, but it is recognized that the burden of regulation is borne only in part by shareholders. Much of it is borne by consumers in the form of higher prices for the products they buy. While some businessmen may ignore the benefits of regulation, many recognize that regulation *does* confer social benefits on society. However, they feel that in many instances, the costs may not have been considered carefully and that the benefits may be outweighed by the costs. . . .

Consumer groups and labour representatives assert that calls for "deregulation" and "regulatory reform," particularly those emanating from the business community, amount to attempts to nullify the hard-won gains of consumer groups and labour unions made through the political process. They say that the bulk of the so-called "costs of compliance," about which business firms complain, are in fact passed along to consumers or shifted back onto workers; shareholders only pay a portion of the costs of regulation. They are fearful that advocates of deregulation or cutbacks in certain regulations tend to be obsessed with costs and will give almost no weight to the important social benefits of regulation. As they see it, the optimal amount of regulation involves a balancing of costs and benefits. Too little attention has been paid to the benefits, only part of which can be properly evaluated in economic terms.

For all the criticism that is levelled against regulation, considerable political support can be (and has been) marshalled for specific regulations. Not the least of this comes from those who are now regulated. For example, in the Council's extensive discussions with members of the business community, very few representatives of firms subject to direct regulation advocated deregulation of their industry as the most desirable public policy. In fact, much trepidation was expressed over the possibility of partial or complete deregulation. The consultative process provided considerable evidence to support the view that "while all businessmen *preach* competition, many prefer to *practice* under the umbrella of benevolent regulation." . . .

By now regulation almost parallels the taxing and spending powers of Government in terms of its influence and importance in the life of the nation. Finding ways to improve how it goes about regulating is the most important managerial task now facing the Government.

— Charles L. Schultze

The scope of regulation in Canada

In 1870 there were 25 federal statutes that could be identified as being aimed at influencing the economic behaviour of individuals in the private sector. In 1978 there were 140, and persuant to these statutes there were 9,475 pages of statutory instruments, including detailed regulations.

Over the same period, the number of provincial regulatory statutes increased from 125 to 1,608. Although no complete tally has been made by the Council of the total number of pages involved, the analysis has identified the following numbers of regulations (pages in parentheses) in four provinces: British Columbia 676 (4,006); Manitoba 278 (2,741); Ontario 1,118 (6,631); Quebec 1,267 (9,541). Considering that both the federal and Quebec regulations are published in a bilingual format, it is evident that Ontario's economic regulations are substantially more extensive than either Quebec's or those of the federal government.

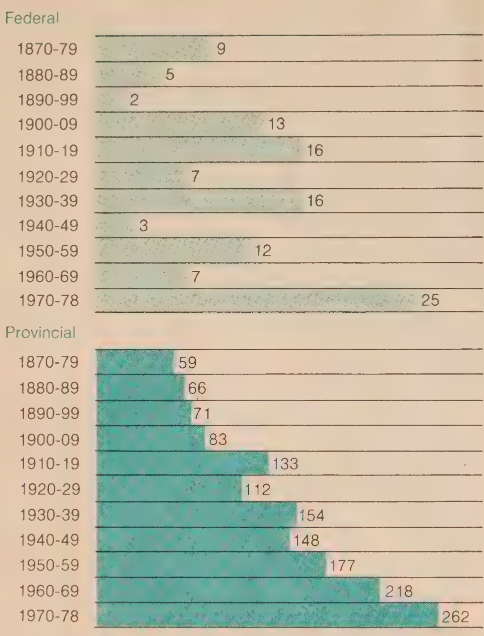
It is estimated that about 29 per cent of Canada's total Gross Domestic Product (which includes government activities) is subject to some form of direct regulation. While almost every kind of economic activity is covered, the pervasiveness of this kind of regulation can be illustrated by noting that there are now more than 100 federal and provincial agricultural marketing agencies of one kind or another, marketing everything from apples to cranberries to hogs to tobacco. Sales through these agencies now account for three-fifths of Canadian farm cash receipts. Another example is the transportation sector, now subject to 26 different federal regulatory statutes, at least twice that number of provincial ones, and thousands of pages of regulations.

To a large extent the growth of regulation in Canada reflects the increasing interdependence of the two levels of government. There are few remaining areas of public policy where one level of government acts alone. Both levels of government may regulate in the same area, and often regulate the same activity. The result may be duplication, overlap, inconsistency, and confusion in regulatory requirements imposed on firms and individuals.

We take for granted, as a first principle of Canadian federalism, that economic integration is a *sine qua non*. Without a commitment to an integrated or common market, i.e., "a single market within which goods, services, labour, and capital may move freely without impediments created by public authorities," there can be no meaningful commitment to a unified country. . . .

We are concerned that governments today are increasingly exercising their regulatory powers to achieve goals that conflict with the objective of an integrated national market. In some instances, the impediments are deliberately created, in part, perhaps, according to one commentator, "to solve problems *resulting from* economic integration." In others, public authorities, perhaps insufficiently appreciative of the economic interdependence we have described, unwittingly construct obstacles to economic integration. Whatever the motivation, it appears that one of the burdens of overlapping government jurisdictions that may affect the efficiency of individual Canadian firms and the economy as a whole is the exercise of regulatory powers without due regard to their impact on the integration of the Canadian economy. . . .

Number of federal and provincial regulatory statutes by decade of enactment or enactment of their predecessor



We recognize that, although regulatory barriers to interprovincial trade are being identified, we lack sufficient knowledge upon which to draw strong conclusions. Nevertheless, if the barriers develop into a trend towards the fragmentation of Canada as an identified national market, the economic consequences will be most serious. Substantial economic losses will be incurred — losses that the nation can ill afford. . . .

While government regulation can (and does) prevent exploitation and abuse, it seems necessary in light of its scope and growth to re-emphasize the fact that it is coercive and limits the scope of individual freedom. Of course, freedom is not the absence of all constraints. There is no such thing as absolute freedom and government intervention is not the only source of constraint on individual freedom. Human needs, both physical and social, impose limits on individual freedom. Income and the action of the market itself constrain individual choices in particular situations. In some cases, regulation was imposed to constrain the action of a few that the freedom of many could be enlarged. . . .

In our view, the actions of governments should increase and not reduce efficiency in the allocation of scarce resources. This involves the recognition that government intervention is not costless and that in some circumstances it may not be worthwhile to intervene. While it would be inappropriate to argue that economic efficiency should be the primary objective of regulatory policy, nevertheless, it is of great importance. In many cases it will be necessary to sacrifice efficiency to achieve equity. So be it. But the efficiency costs should be carefully weighed in the decision-making process.

It is apparent that economic efficiency, considered in the abstract, is a derived rather than a basic social goal. We want efficiency, not for its own sake, but for what other tangible and intangible benefits it can provide. Efficiency in the allocation of resources is desirable because it has the capability of providing a larger total output with which to satisfy a variety of private and social goals. Moreover, a policy that promotes efficient use of resources will generally increase society's options in achieving basic social goals. Such a policy may generally be combined with another policy aimed at redistributing income so that all affected parties will be made better off. Economic efficiency may thus improve the well-being of all.

If we fail to continue to increase total output, the resources available with which to effect redistribution will be less. Furthermore, when the objective of a particular action by government is redistributive, careful consideration should be given to the efficiency with which it is effected. Regulation may or may not be the most efficient or effective method to achieve distributive objectives. Greater consideration should be given to alternatives such as taxes, subsidies, and transfers.

Perhaps of greater importance than static efficiency (whether allocative or technical) is dynamic efficiency. The latter refers to technological change that is the principal basis for economic growth in terms of real income per capita. Technological change takes the form of entirely new products and services, new methods of producing existing products (which are less costly in terms of the total cost to society), the modification of existing products for new uses, and the introduction of new techniques of organization, marketing and management. As we become increasingly aware of the "finiteness" of our stocks of traditional inputs of land, labour, capital, energy, and other natural resources, the significance of technological change increases. As we emphasize (elsewhere), it is important to assess the impact of regulation on technological change.

> Laws frequently continue in force long after the circumstances which first gave occasion to them, and which alone could render them reasonable, are no more.
>
> — Adam Smith

The expectations of most citizens that their standard of living will continue to increase is vitally dependent upon our society's capacity to generate technological and organizational innovation. This is as true of the less measurable outputs such as the "quality of life" as it is of those presently reflected in the Gross National Product. To a considerable degree, social conflict can be ameliorated by widespread confidence in the existence of a growing total product.

Concern for individual freedom and economic efficiency point toward extensive reliance on markets and market-like arrangements. Competitive market forces are attractive in a number of ways: they are decentralized and impersonal; they encourage adaptability and innovation; and they maintain a constant pressure to be efficient and to be responsive to the wants of those who pay the bill. Depending on the circumstances, some part of the benefits of competition can occur in oligopolistic markets. In the ideal of competitive markets, the need for coercion as a means of social organization is minimized. However, the operation of markets often conflicts with the important value of equity. . . .

By definition procedure does not deal with the substance of controversial issues; and by nature, it is an arcane, bloodless, and thus unattractive subject of

Recommendations for new procedures

Pending the completion of its research project, the Council in its Interim Report confined itself to recommendations

Recent Publications of the Economic Council of Canada

One in Three: Pensions for Canadians to 2030. Fifty years from now elderly people will form a very large proportion of the Canadian population. Can pensions be provided without risk to the economy? This report examines the evolution of the Canadian pension *system* in an economic context as the "pension mountain" is approached; includes policy recommendations. 144 pages; 71 charts and tables; cat. no. EC22-69/1979, $6.25 in Canada, $7.50 in other countries.

Two Cheers for the Eighties. This Sixteenth Annual Review of the Council examines the impact of inflation on households and businesses; the acute problem that has developed in federal-provincial financial imbalance; the energy situation; economic projections to 1985 under various oil-price and policy "scenarios"; policy recommendations in each area. 105 pages; 40 charts and tables; cat. no. EC21-1/1979, $6.75 in Canada, $8.10 in other countries. Now in its second printing.

Responsible Regulation — An Interim Report by the Economic Council of Canada. See excerpts on pages 10-13 of this issue of *Au Courant*. Although described as an "interim" report, it includes two chapters of recommendations on the Canadian regulatory *process* that are probably the Council's final statement on this aspect of the reference made to the Council by the First Ministers. A large number of research studies are still under way — including analysis of the costs of compliance with regulations — in preparation for the final report at the end of this year. 127 pages; cat. no. EC22-70/1979, $7.25 in Canada, $8.70 in other countries.

Reflections on Canadian Incomes. Selected papers presented at the Conference on Canadian Incomes in Winnipeg May 10-12, 1979. Twenty-seven papers. Approximately 500 pages. This volume will be of interest mainly to those undertaking studies or research in this field. Content is largely technical. EC22-78/1980E, $17.50 in Canada, $21.00 in other countries.

For a Common Future: A Study of Canada's Relations with Developing Countries. Canada's policies with respect to the third world on trade, investment, aid, and migration are re-examined. The effect of third-world competition on industries in various regions of Canada is also reviewed. A number of specific policy recommendations are advanced. 158 pages, 56 tables and charts; cat. no. EC22-5/1978; $4.75 in Canada, $5.70 in other countries.

Living Together: A Study of Regional Disparities. Now in its second printing, this major report on regional income disparities in Canada was three years in the making, and examines all aspects of the problem — the underlying historical and geographical forces, the rationale for regional policies, differences in productivity and urban structure and other factors, and the efficacy of policies so far. With policy recommendations. 250 pages; 103 tables and charts; cat. no. EC22-54/1977, $7.50 in Canada, $9.00 in other countries.

Looking Outward — A New Trade Strategy for Canada. One of the most popular of Council publications (now in its *third* printing) this 200-page report examines the economic implications of the Canadian tariff structure and the case for gradual trade liberalization, including policies for industrial adaptation; 52 tables and charts; cat. no. EC22-27/1975, $6.50 in Canada, $7.80 in other countries.

People and Jobs — A Study of the Canadian Labour Market. This landmark study by the Council set the pattern for its continuing labour-market analysis. It covers unemployment insurance, minimum wages, industrial relations, problems of special groups and the effectiveness of government programs, and offers a number of recommendations for removal of obstacles to the "more efficient and humane functioning of the Canadian labour market." 290 pages, 88 tables, 49 charts; cat. no. EC22-42/1976, $6.00 in Canada, $7.20 in other countries.

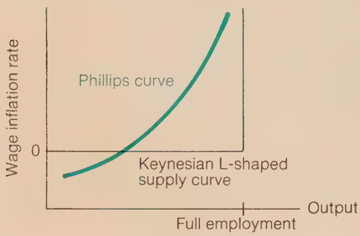
Summaries

The following summaries of Economic Council documents are still available in limited numbers, without charge: *Looking Outward: A New Trade Strategy for Canada* (1975); *Living Together: A Study of Regional Disparities* (1977); *Synopsis and Recommendations: Responsible Regulation* (1979); *People and Jobs: A Study of the Canadian Labour Market* (1976).

Whatever became of the Phillips curve?

If unemployment is increasing, can wages continue to rise? Canadian experience over the 1970s would lead us to say that they can and do so. But economists have generally believed that there is some kind of trade-off between inflation and unemployment. British economist A. W. Phillips described the relationship in a paper published just over 20 years ago. Simply put, his thesis was that when jobs are hard to come by, workers will not be very aggressive in asking for higher wages. Ergo: when unemployment rates are high, the rate of wage inflation will be relatively low and when unemployment rates are low, the rate of wage inflation is much higher. The relationship can be shown graphically in what has come to be known as "The Phillips Curve."

Phillips replaces Keynes



"The Phillips curve provides a new explanation absent from both classical and Keynesian models, of how an economic system may simultaneously experience both persistant inflation and unemployment"

But does the Phillips Curve exist in Canada? David Wilton, of the University of Guelph, in a discussion paper prepared for the Centre for the Study of Inflation and Productivity, examines the proposition that while a Canadian Phillips Curve may have existed in the 1950s and 1960s, it seems to have disappeared during the 1970s.

There may be several explanations for the disappearance. One may be that the Canadian Phillips Curve was not really there at all in the two previous decades. Wilton says that some of the earlier studies of the subject used inappropriate statistical techniques and so there were quite sizable errors in the calculations. This does not necessarily mean that the relationship between wage inflation and unemployment did not exist, but that the way in which these early studies measured it may have been misleading.

Then again, the Canadian Phillips Curve may be so elusive because the relationship between inflation and unemployment may not be as stable as Phillips found it was in Britain over the 100-year period that formed the basis for his studies and the development of his theory. Wilton says that while the basic theory of the relationship is a plausible one, there is really no reason why that relationship should be a stable one that would hold good for all times, all economic conditions and all institutional arrangements.

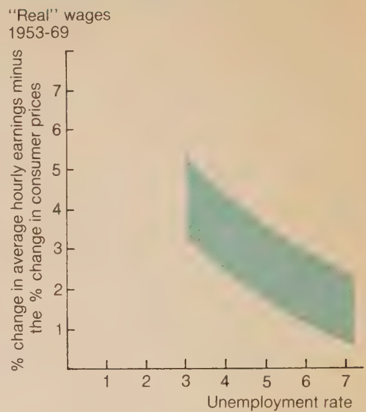
Finally, says Wilton, we may have failed to recognize the Phillips Curve in Canada because it has shifted and taken on a different shape. Some economists have argued that during the late 1960s and throughout the 1970s, the unemployment rate was no longer an accurate measure of the kind of labour market conditions that would put a damper on wage demands. So wage inflation continued, even though the unemployment rate continued to rise.

According to Wilton, the trend to multiple-earner families and the 1971 changes to the Unemployment Insurance Act may mean that unemployed workers can be more selective in looking for work and that employers will be forced to offer higher wages to attract workers to fill vacant jobs. Attempts to resurrect a Canadian Phillips Curve for the 1970s have used other measures of labour market conditions such as the help-wanted index or the job-vacancy survey. But these do not have the precision of the unemployment rate, so the best that econometricians have been able to produce is a Phillips Curve which is a relatively thick band.

The Canadian Phillips Curve does exist, then, although Wilton says that the most important finding of the various studies is how *slowly* wages change in response to labour market conditions. This may have misled policy-makers into believing that inflation will not be that much worse if unemployment is lowered. The kind of trade-off between inflation and unemployment that is sustainable in the long run depends on other considerations.

Unexpected events, such as the quadrupling of oil prices, will affect the economy and disturb the relationship between wages and the level of unemployment. Suppose that there is a positive development, such as an opportunity for increased export sales which will generate more jobs and contribute to a lowering of the unemployment rate. Workers who are in the middle of a three-year collective agreement will have to wait until their contract expires before they will be able to take advantage of the tighter labour market to increase their wages. So the response of wages to a lower unemployment rate will be spread over several years.

A Canadian Phillips Curve



Unexpected inflation and the desire to catch up with price increases that have occurred during the life of a collective agreement will also play their part in how wages are determined. Wilton says that the growing use of COLA clauses (cost of living adjustment) is witness to this. As well, the effects of a wage settlement for one particular group of workers may spill over into wage negotiations for other workers in the same industry or in similar kinds of work.

What are the policy implications of the particular version of the Phillips Curve to be found in Canada? Wilton says that in terms of broad economic policy, there is little scope for demand management policies to achieve a permanent lowering of the unemployment rate. In fact, government policies on taxes and transfer payments such as unemployment insurance may have caused a serious deterioration in the Canadian inflation-unemployment trade-off.

Wilton concludes that "a prolonged period of abnormally high unemployment and inflation may be required to bring the economy back down to a lower sustainable inflation rate and to purge the inflationary consequences of earlier 'excessively expansionary' demand management policies."

Abstracted from *Wage Inflation in Canada* by D. A. Wilton, Discussion Paper No. 136. This report will be published shortly as a Research Study (Catalogue No. EC22-79/1980).

A new look at Canada's strike record

Canada's dismal strike record in recent years is just about the worst of any country in the world. Only Italy's exceeded it, and the difference was not that great. Government policy, until recently, has reflected wide public concern that strikes are a chronic problem that may seriously damage the economy. But an economist from the University of British Columbia believes that the overall cost of strikes to the national economy is less than is generally assumed.

S. M. Jamieson, in a paper prepared for the Centre for the Study of Inflation and Productivity, says that there are several reasons why this may be so. The time lost through strikes was relatively small and the impact on output and income represented only a small fraction of the losses from unemployment.

In the ten year-period leading up to the establishment of the Anti-Inflation Board, strikes were concentrated in a handful of industries — construction, mining and smelting, transportation equipment, primary metals, and forest products — employing less than 15 per cent of the total labour force. As well, strikes are more likely to occur in times of economic prosperity when unions will take advantage of growing incomes and low unemployment to make new demands. Although the workers and the industries concerned will lose out, their losses in employment, income and output may be balanced by expansion of other sectors of the economy, so the impact of strikes on the economy as a whole tends to be cushioned.

In some cases, especially in durable goods industries, it may be possible for employers to build up stockpiles before strikes begin, or to use overtime work to catch up on back orders when strikes end.

Jamieson says that the high level of industrial conflict in Canada seems to have been generated by two features that may be unique to this country. One is the organization of the trade union movement and one is the organization of the economy itself.

The union movement in Canada is decentralized and fragmented. The Canadian Labour Congress probably exerts less control over its affiliated organizations than any comparable national federation, says Jamieson. The result is that organized labour is not able to have much influence over the main political parties in power in Ottawa. Major economic policies that will affect workers are developed with little or no consultation with organized labour. Unions have to rely on economic and political action outside organized politics if they are to have any influence and so they resort to strikes.

The concentration of the Canadian economy on export-oriented resource industries produces a pattern of economic instability that leads to industrial conflict. Resource industries are capital-intensive and their focus on highly unstable world export markets makes them particularly sensitive to swings in economic activity. The connection between economic instability and industrial unrest is evident, says Jamieson, in that most strike activity was concentrated in these industries.

Most legislation governing industrial disputes has concentrated on preventing or settling strikes. Jamieson points out that at both federal and provincial levels, the emphasis has been on elaborate provisions for conciliation or mediation in disputes that start when new collective agreements are being negotiated; on the outright prohibition, achieved through fairly severe legal sanctions, of wildcat strikes; and on emergency legislation to prevent or end strikes that are regarded as being particularly damaging to the economy.

Although the general public view is that strikes are detrimental, the conventional wisdom of industrial relations theorists is that most strikes have a positive role. According to Jamieson, the strike weapon is often thought to be a necessary adjunct to collective bargaining, forcing the parties to come to terms with each other. Strikes during periods when profits are increasing faster than wages should bring about a fairer distribution of income. And employer resistance to union demands at peak periods of economic activity may be viewed as a means of slowing down damaging inflationary increases in wages and the costs of production.

Jamieson argues that it is possible to present a case that, on the whole, the benefits from strikes more than justify the limited costs they impose on the economy.

Abstracted from *Industrial Conflict in Canada 1966-75* by S. M. Jamieson; Discussion Paper No. 142, prepared for the Centre for the Study of Inflation and Productivity.

Would centralized bargaining mean higher wages?

Wage settlements would not necessarily be higher if Canada had a more centralized system of collective bargaining than it does now. Robert Swidinsky, of the Department of Economics at the University of Guelph, says that most industrial relations analysts have held the view that wider negotiation units, where wage bargaining is done by a number of employers or an employers' association, tend to increase union power and lead to higher wage settlements. Swidinsky's analysis of the ten-year period leading up to the establishment of the Anti-Inflation Board supports the hypothesis that bargaining structure has an effect on negotiated wage settlements, but he says the effect is not that significant.

Most wage settlements in Canada are negotiated by small independent units working at the plant level. A 1973 sample survey showed that 84 per cent of all major collective agreements were negotiated by a single plant, or by several plants run by the same employer. Only 16 per cent of agreements were settled by large negotiating units.

Swidinsky's analysis shows that the larger units run by employers' associations negotiated only slightly higher settlements than other units. It's not so much the size of the negotiating unit that determines the outcome of a negotiation in Swidinsky's view, as the prevailing conditions in the labour market, the kind of issues under discussion, corporate and union structures and sheer power tactics.

Discussions of a more centralized bargaining system have often raised the possibility that such a system might reduce industrial conflict. Swidinsky says that although this effect has not been demonstrated, if it does prove to be so, then the reduction in industrial conflict could be achieved without significantly higher wage settlements. Jamieson's work, however (see above), indicates that there is no conclusive evidence that centralizing the bargaining structure reduces industrial conflict.

Abstracted from The *Effect of Bargaining Structure on Negotiated Wage Settlements in Canada* by Robert Swidinsky; Discussion Paper No. 139, prepared for the Centre for the Study of Inflation and Productivity.

A new look at an old culprit: public service wages

One reason why Canada instituted wage and income controls was the belief in policy circles that wages in the public sector were out of control. But Douglas Auld, of the Department of Economics at the University of Guelph, says that the issue was a red herring. In a paper prepared for the Centre for the Study of Inflation and Productivity, Auld says that public sector wages and the role they play in inflation have been the subject of more unsubstantiated "conclusions" than most other recent economic policy topics.

Looking at the decade before the Anti-Inflation Board was established, Auld finds that, on average, base wage rates in the private sector increased faster than those in the public sector, which he defines as employment with all three levels of government as well as in the delivery of health and education services. But employees in the health sector of the public service got wage increases significantly above those in the private sector. He cautions that these data only deal with base wage rates for unionized workers in the public sector, and do not reflect other factors which may influence differences in average hourly earnings.

Many writers who have looked at public sector wages apparently believe that what takes place in the public sector cannot really be explained by the traditional wage theories of economists. The traditional approach, says Auld, has assumed that governments don't have to worry about making a profit and that their demand for workers is not very flexible, so the way they deal with wages will be different from the approach taken by private employers.

Auld argues that some levels of government do not have unlimited ability to pay higher wages whenever they are demanded. Local governments, for example, which get most of their revenues from property taxes, may find it hard to grant large wage increases if that means resorting to a politically unpopular decision to raise property taxes.

He also disputes the claim that when public service wages are increasing, governments will not be able to cut back on employment rather than pay the rising wage bill. It is possible to replace workers with machines, for example, and it may be that there is much more of this potential substitution in the public sector than has generally been believed.

In view of the dramatic growth in public sector unions over the ten years to 1975, says Auld, it is little wonder that there was some "instability" in industrial relations activity. But he says that neither the unions nor the government have really come to grips with the question of "essential services." Some of the services provided through the public sector are "essential" because the government created a monopoly by forbidding competition in the same area.

Public concern about a perceived lack of market forces to control wages in the public sector, and the lack of an alternative source of supply if services supplied through the public sector should cease, have led governments to seek alternative ways to control public sector wages.

Wage rates in the public sector do respond to market forces, but the bitter debate over the elimination of wage rate bargaining is bound to continue. Unfortunately, says Auld, it is the wrong debate. "What should be debated is whether or not a work stoppage in 'essential' no-product-substitution sectors of society should be permitted, and if not, what alternative can be used to ensure that employees are treated fairly."

Abstracted from *Wage Behaviour and Wage Control in the Public Service* by Douglas A. Auld; Discussion Paper No. 137, prepared for the Centre for the Study of Inflation and Productivity.

Income policies: the international perspective

"Incomes policy, like any tool, can be used constructively or negatively — or merely flourished as a theatrical prop."

Anne Romanis Braun, in a paper for the Economic Council on incomes policies, says that the rather modest incomes policies of the early 1960s were an honest attempt by industrialized nations to cope with inflation. They used incomes policy as an adjunct to fiscal and monetary policies — not as a substitute for, or a determinant of, such policies.

Once the rapid inflation of the early 1970s took hold, political realities forced governments to look for a quick fix. They then tried to use incomes policy to correct problems that were the result of unsound and conflicting national economic policies.

Braun says that while other commentators have believed that incomes policies develop in response to wage bargaining pressures or firms continually increasing prices, more often than not it is the international situation that gives rise to a need for incomes policy.

"With the sole exception of the early sixties," she says, "all the episodes of widespread reliance on incomes policies occurred in response to severe disequilibrium and disfunctioning of the international payments system."

Under the old system of fixed exchange rates, the inflation rates of the industrialized countries were generally in line with each other. A country with a persistent surplus or deficit on its balance of payments would be forced to adjust its policies. A deficit country would have to slow its rate of credit expansion and/or devalue its currency, both of which would tend to limit the deficit.

It is widely believed that today's flexible exchange rates allow a country to pursue a more independent monetary policy. But Braun warns that in a country following an expansionary policy, the effects of domestic credit expansion may be speeded up. "The greater independence of monetary policy made possible by flexible exchange rates," says Braun, "does not mean that countries are insulated from the effects of marked changes in each others' policies."

Mrs. Braun's paper examines in some detail the incomes policies of the major industrialized countries since the Second World War, the international causes of increasing cost pressures, and how the exchange-rate system affects costs and prices. Assessment of the results achieved by incomes policy, she says, is difficult because of the interplay of domestic and external influences on inflation. The problem of reconciling conflicting national policies and priorities within a highly integrated international economy still remains to be solved.

Abstracted from *Some Reflections on Incomes Policy and the International Payments System* by A. R. Braun, Discussion Paper No. 132.

Pensions for one in three: can we do it without risk to the economy?

When today's high school students are ready to retire, fifty years from now, one in five Canadians could be a senior citizen. Can we make sure that they will have enough money to live on without undermining the stability of the economy?

If that seems like something of an academic question right now, remember that many of those who will retire in the critical twenty-year period from 2010 to 2030 are already in the work force. If we are going to change our system of income security for the old, we will have to announce it well in advance so that people can take those changes into account in planning for their retirement. Suppose we decide that because older people will form a much greater proportion of the total population in 2030 they will have to bear a higher proportion of the cost of providing for their pensions themselves — then contribution rates have to be increased now, while those people are in the work force.

The way our senior citizens are treated is already a controversial subject in this country. Even today, many of our elderly citizens are living in socially unacceptable circumstances. There have been pressures to expand services for them and to improve the coverage and benefits of retirement income packages. But with older people forming an increasing proportion of our total population, it may be difficult to maintain even the existing level of benefits, let alone expand them, unless we plan for this change well in advance.

In 1980, for every senior citizen there are five people of working age. By the year 2030, that ratio could have shrunk to one in three. Fears are now being expressed that any expansion of our existing commitments to the elderly could bring about a collapse of the economy, threatening the well-being of Canadians of all ages.

The Economic Council does not share this pessimism. It believes that this country has the basis for a remarkably good system of ensuring decent retirement incomes. Of course the Council recognizes that there are holes in the present fabric. But our basic conclusion is that despite the expected growth in the number of older people who will have a claim on this system — a system to which they themselves have contributed — we can meet these claims and correct any shortcomings without risk to the economy.

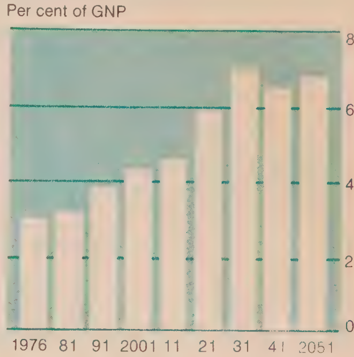
The Council's study of pensions focuses on how this can be done. *One in Three: Pensions for Canadians to 2030* is first and foremost an economic analysis, looking at the long-term implications for the economy of our system of income security for older people. It considers what proportion of the Gross National Product will have to be devoted to the retirement income system for each of a number of possible policy options, taking into account that different assumptions can be made about how fast the population will increase and thus what size work force there will be to produce the country's total output of goods and services. The report also looks at how other national objectives, particularly economic growth, might be affected by retirement income systems.

With the kind of income security system that we have for old people, it is unlikely that we will be able to lower the proportion of GNP devoted to these programs, even if productivity increases or we acquire more workers through immigration. The Council's projections do show that there is quite a bit of scope for improving benefits over the present levels. Naturally, though, the slower the rate of population increase, the harder this will be to accomplish, because workers will not be readily available to keep the nation's total output of goods and services growing steadily.

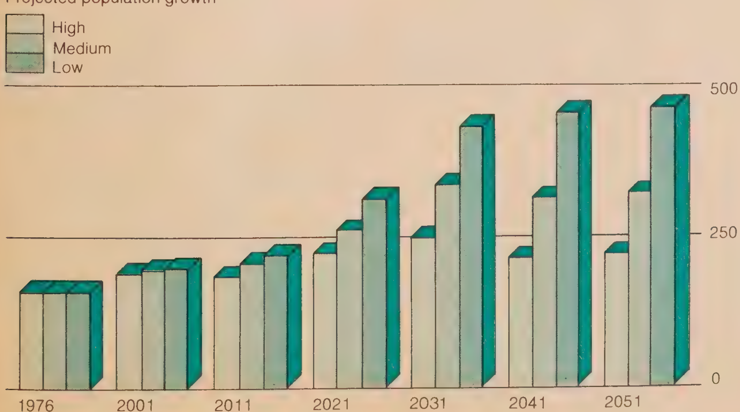
The Council estimates that spending on government programs of income support for the elderly will increase from the present 3 per cent of GNP to over 7 per cent in 2031 (see chart). That assumes no change in the level of benefits or the age of eligibility and it assumes that the birth rates of the early 1970s will prevail, so that the rate of population growth is the medium level of our three demographic projections. To reduce that share of GNP by just one percentage point, using the same assumptions, would take an additional 2.8 million workers in the labour force and no additional retired workers.

If the recent decline in fertility continues, however, benefits to the elderly could represent as much as 10 per cent of GNP by 2031, still using the same assumptions outlined above, because the number of eligible people will be increasing significantly

Public retirement income programs
Spending projections if the medium growth in population is achieved

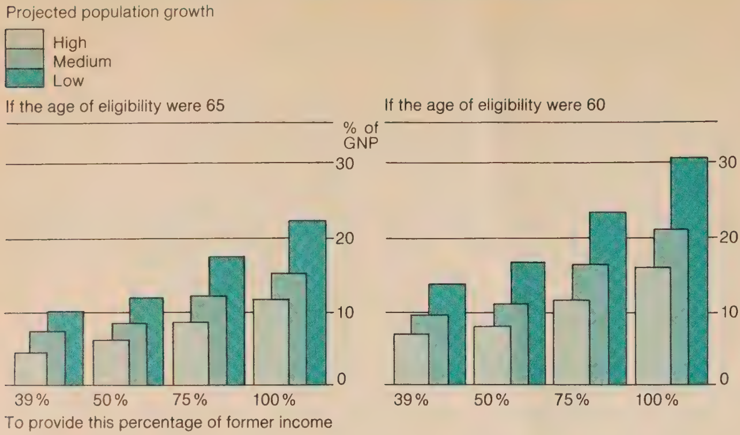


Canada's aging population
The number of people aged 65 and over for each 1,000 persons aged 20-64



The effect of changing benefits

What governments would have to spend on CPP/QPP, OAS and GIS in 2031



faster than the number of people in the labour force. And if the present trend towards earlier retirement continues and the normal retirement age becomes 60 rather than 65, the shift in the ratio of pensioners to labour force could be very large indeed.

Any move to increase the level of income replacement provided by the public pension plans would mean an even higher proportion of GNP would have to be assigned to the older generation. If the Canada Pension Plan and Quebec Pension Plan were to replace 60 per cent of employment income rather than the present 25 per cent, the Council estimates that pension benefits would rise to about 12 per cent of GNP with medium population growth, and as high as 17 per cent if the population grows more slowly.

The chart above shows some of the possibilities in terms of what proportion of GNP would have to be devoted to government programs of income support for the elderly under various assumptions of population growth and age of eligibility. The consequences of an earlier retirement age are evident, but whether or not there should even be a mandatory retirement age is still in question.

Human rights experts are opposed to the idea of a mandatory retirement age and medical experts suggest that work opportunities in later years could improve life expectancy and general health. Organized labour, on the other hand, argues that without a mandatory retirement age workers will be exposed to arbitrary management decisions, younger workers will be denied opportunities for advancement and employers will have less incentive to improve pension plans. Removal of the mandatory retirement age might also induce industry to employ more younger workers to avoid the extra costs associated with older workers.

Some people believe that one way to ease the burden of providing pensions for a rapidly aging population would be to raise the age of entitlement to benefits. There would certainly be a sharp reduction in the direct cost of benefits if this were done. But it would also reduce the range of choice open to workers. On the basis of its demographic and expenditure projections, the Council does not believe such drastic action is warranted.

Later retirement cannot be seen as a substitute for better retirement income programs. As the labour force growth slows down, industry and labour will experience very different problems in the future. It is the Council's belief that mandatory retirement provisions will then wither away on their own. In the meantime, rather than legislate against the practice, the government could take action to encourage later retirement.

The shift from individual to collective action

It used to be that saving for old age was considered largely a personal responsibility. But as early as 1927, the Old Age Pensions Act recognized that the state had some obligation to help those who failed to make adequate provision for themselves. Several reasons have been put forward to explain this shift away from individual responsibility to collective or institutional action.

There are high social costs to the community if its individual members do not provide enough for their old age. But there are uncertainties facing the individual in planning for retirement, particularly in trying to ensure protection against inflation. And, quite simply, there is myopia with respect to retirement needs.

Income security programs for older people were originally designed to provide everyone with a basic minimum income to protect them against poverty. Now, increasingly, programs are also concerned with the need to provide a pension to replace some part of a worker's earnings so that the individual's standard of living does not drop significantly on retirement.

The achievement of this dual objective raises a number of serious concerns:

• The system we have now attempts to change the pattern of how an individual allocates money to savings or consumption over a lifetime, partly through the use of various forms of compulsion.

• Can ways be found to permit greater freedom of choice without sacrificing income security? To what extent are governments, or even private firms, justified in forcing today's workers to save in order to provide benefits beyond the minimum?

• The way in which pension plans are funded may affect the level of savings, the rate of capital formation and the long-term growth of the economy. And the way in which both public and private pension plans invest the ever-increasing pool of savings entrusted to them raises concerns about the concentration of economic power and the possible misallocation of savings to less productive uses.

• The availability of pension plans may have a significant impact on the labour market. Employer-sponsored pension plans may be a barrier to the free mobility of workers. And there are fears that income-tested plans, such as the GIS, may diminish the incentive to work, thereby decreasing the labour supply.

These issues provide the focus of the Council's pension report. The study does not describe in detail the situation of those elderly people who in 1980 are suffering from want. This question has been well documented elsewhere. Action to alleviate the problems has been hampered by uncertainty about the longer-term effects of policy initiatives on the economy. The Council's report does throw some light on these questions.

Financing a national retirement income system: who pays and who benefits

The basic income programs — old age security, with the guaranteed income supplement for needy pensioners and supplemental programs provided by some provinces — are all financed from the general revenues of the governments concerned. Subject to certain conditions, the federal government shares the cost of the provincial supplements.

The income replacement programs, to replace some part of the income earned by the pensioner before retirement, are now provided by a mixture of public and private plans. The Canada and Quebec Pension Plans, which are the public programs aimed at income replacement, are financed by the contributions of employers and employees, each paying 1.8 per cent of the employee's pensionable earnings, and by the interest earnings of the plans' reinvested funds.

The CPP and QPP are now partially funded — that is, the current contributions received exceed current benefits paid out. The excess goes into reserve funds. Recent estimates indicate that by the middle of the 1980s, current contributions to the CPP and QPP will equal benefits paid out, so from that point on the funds will not increase. As the number of pensioners increases in relation to the number of workers, it will be necessary to rely on the reserve funds to pay subsequent pension benefits unless contribution rates are raised. If there is no change in contribution rates, the reserve funds would disappear early in the next century.

This possibility has generated some discussion as to the merits of pay-as-you-go systems compared with fully funded plans. Under a pay-as-you-go plan, the contributions of the current work force are only enough to pay for the benefits of those who are retired. Such a system poses no problem if each successive generation of workers is larger. Each group will then have to contribute less to the support of the previous generation than it will receive in benefits once it reaches retirement age. But if the ratio of pensioners to workers is rising, as it is in Canada, maintaining even the same level of benefits for successive groups of pensioners requires that the contributions from the current work force be increased. A decision to increase the level of benefits would involve even higher contribution rates. Eventually the workers may end up paying very high rates and more in contributions than they can expect to receive in benefits. At some point they are likely to reject this situation and the whole scheme would then break down.

At the other end of the spectrum, a fully funded pension plan would require that assets accumulated in the plan at any moment in time are sufficient to match the total benefits credited to the plan members up to that date. In other words, each age group pays for its own benefits out of its accumulated contributions. Pension plans sponsored by employers in the private sector are generally required by law to be fully funded. Public sector plans depend on contributions from both employers and employees. But in the private sector, 47 per cent of pension plan members are in non-contributory plans that are financed by the employer's contributions alone. Where there are contributory plans, the employee's contributions average about 6 per cent of gross salary or wages for the government plans and about 5 per cent for private plans.

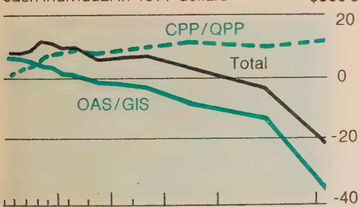
If the CPP and QPP had been fully funded in 1978 it would have meant a contribution rate of 9.4 per cent (compared with the present 3.6 per cent), half of which would have come from the employee.

How today's young people will benefit

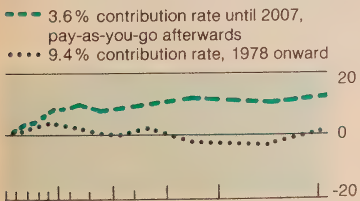
The net value of government programs to those born in 1960-64

All Public Retirement Income Plans

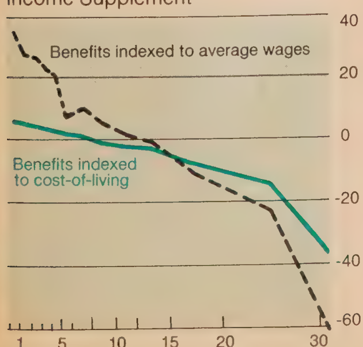
Present value of net lifetime benefits to each individual in 1977 dollars



Canada/Quebec Pension Plans



Old Age Security/Guaranteed Income Supplement



Family earnings over a lifetime
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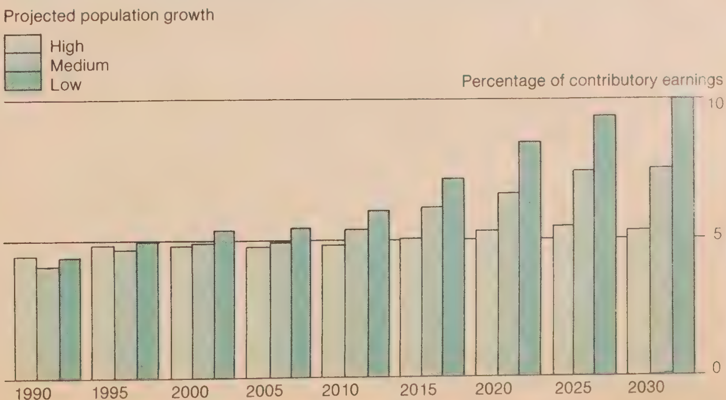
Paying as you go for benefits

What workers would have to contribute to pay for the pensions of those who were retired



Pension funds are big-time investors

Pension funds are already among the country's largest long-term investors, and they are destined to become even larger. Clearly, the way in which the managers of these funds allocate the savings entrusted to them can have important implications for the economy. If pension savings become more concentrated in the hands of a small number of institutional investors or government agencies, it could affect the efficient functioning of the capital market. There are implications for the control of Canadian industry too. And fears have been raised that pension fund investments are being diverted from business to the government sector, forcing Canadian firms to look more to foreign sources of funds and increasing the risk of greater foreign ownership and control.

The type of investments available to these funds is limited by both direct legislation and by other regulations, so that a high proportion of their investment is in government bonds, in low-risk securities in the private sector, and in Canadian rather than foreign securities. These effects will be reinforced as the size of pension funds increases and some consideration may have to be given to amending the legislation or regulations.

The public pension plans present rather different problems than the private retirement income system. At the present time the CPP is required by law to invest its excess of contributions over benefits in provincial bonds in proportion to the employer-employee contributions from each province. The provinces are free to use these funds as they see fit, and they have been used for the general purposes of the government concerned. The QPP funds, on the other hand, like the funds of private pension plans, are invested through the private capital market. More than half of these funds have been invested in Quebec government bonds, and three-quarters in bonds of all types. About 10 per cent of the assets have gone into corporate stocks.

If these public pension plans were to move to a pay-as-you-go system, there would, of course, be no build-up of funds because the contributions of those in the labour force would be used immediately to provide benefits to those workers who had retired. But a move in the direction of full funding of these plans from the present partly funded basis would concentrate even larger funds in the hands of governments. It is almost impossible to prove that the way in which governments would allocate pension fund savings would be less productive than private alternatives, but the danger of misallocation would be there as long as governments do not have to bid competitively for these savings.

There is at least some evidence to suggest that this captured source of funds would lead to increased government spending, too, more likely on the part of the less affluent provinces. The total debt of the poorer provinces has tended to increase because they can borrow from the CPP.

There is no doubt that the investment of the funds of the public pension plans presents a dilemma. If these funds were channelled through the capital markets, allowing government pension fund managers to invest in corporate bonds and securities, this action could distort the market and concentrate too much power in the hands of government. There would also be the possibility of government using these funds indirectly to gain control over private industry — a fear that has been expressed in other countries with similar problems.

How are savings affected?

Will Canadians reduce their savings if they are compelled to contribute to a public pension plan? If CPP and QPP contribution rates are increased and total personal savings are consequently reduced, it could mean a shortage of capital and an inability to finance some of the capital-intensive projects slated for the next decade or two, particularly in the energy field. Could it be, then, that the comprehensive retirement income system we are developing will be detrimental to economic growth?

The Council's research does not seem to support that conclusion, but there are fears that if personal saving cannot provide a major source of capital accumulation as it has in the past, foreign investment may move in to plug the gap, and this might lead to increased foreign ownership of Canadian industry.

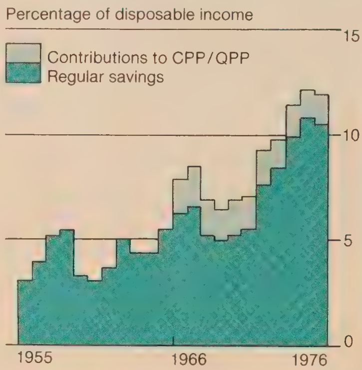
The results of the Council's research on the impact of pension plans on savings have been reassuring. It has concluded first of all that public retirement income plans appear to have had very little effect on total personal savings because the positive and negative effects of such plans balance each other out. The evidence suggests that there is no need to worry about this situation changing in the near future. The further aging of the workforce will, if anything, lead to increased personal savings for at least several decades.

But will the level and composition of those savings be appropriate in view of the type of economic development expected for the next few decades? There are two main concerns here. First, savings may not necessarily result in investment, and even if investment does occur, it may not be great enough to finance the kind of economic growth that some people may think is desirable. But it is worth pointing out that the connection between capital investment and economic growth may not be as significant as some analysts have suggested. Studies show that over 80 per cent of Canada's economic growth between 1950 and 1967 was accounted for by economies of scale, advances in knowledge, improved resources allocation and increased employment.

The second concern is that of increased dependence on foreign investment in Canada. But if a deliberate decision is taken to stimulate domestic saving, should it be implemented through increased funding of public pension plans?

Saving for pensions

How personal savings have changed since the CPP/QPP was introduced



Full funding of the CPP and QPP in the sense used for private plans would be an effective way of increasing savings because contributions to these plans are compulsory for all employed people but such a move would be unrealistic. As the Council has pointed out, moving to a system of full funding would require considerable increases in contribution rates and because contributions are a form of payroll tax, they would impose a heavier burden on those with lower earnings. While it might be justified to ask this group for increased contributions to improve their pension benefits, it is quite a different proposition to ask them to bear the brunt of a program to increase economic growth or reduce foreign ownership of Canadian industry.

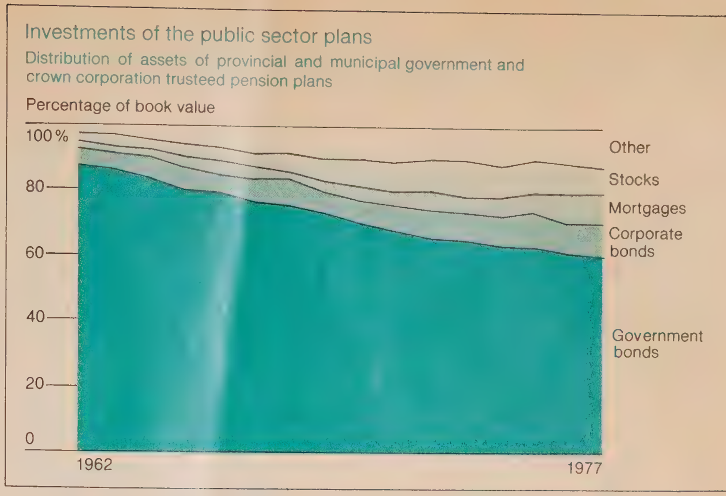
But, as we have seen, continuing to restrict the public pension plan funds to investment in government bond issues raises other questions.

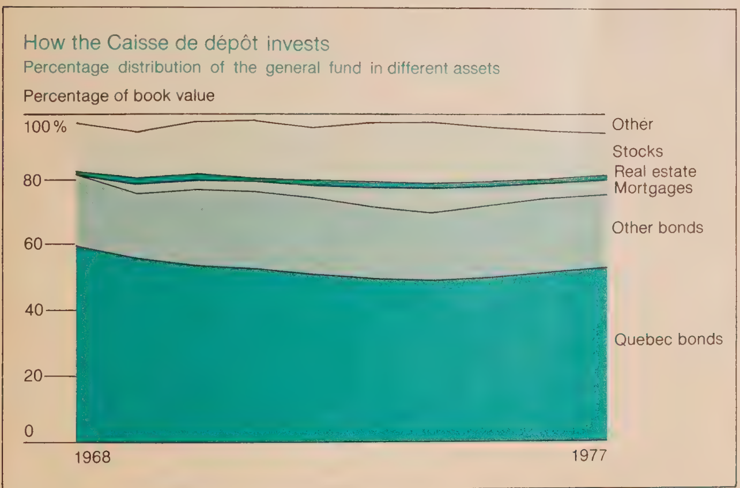
The way in which the private pension plans invest their money is governed by provincial benefits legislation in most provinces. While it is difficult to determine to what extent these laws have reduced the potential earning power of the pension fund portfolios, it would appear that for most major pension funds, the investments eligible under the legislation and regulations are much the same as those any portfolio manager would consider as potentially sound under normal circumstances. But there are some constraints. The various quality tests that stocks must satisfy in accordance with federal and provincial legislation effectively prohibit consideration of lower quality stocks. For example, preferred or common shares are eligible for purchase by a pension fund only if they have paid a dividend during each of the preceding five years or had earnings available for the payment of such dividends. The earnings or dividends must not be lower than a specified rate.

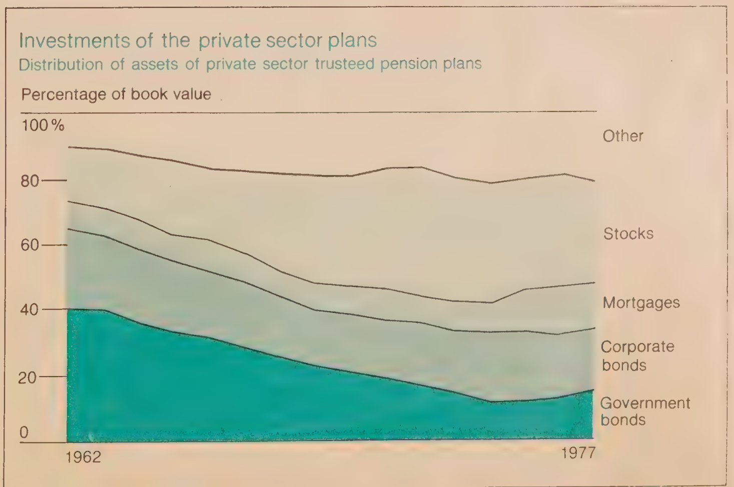
The Council's research indicates that in general, legislation has not proved to be a serious constraint on the investment of funds of the private pension plans and the QPP.

The combined effect of all of the factors bearing on pension fund investment has been to direct large amounts of funds into fixed-interest securities, especially those of governments. Private pension plans have been important sources of finance for the corporate sector too, but they tend to invest in less risky securities to a greater degree than do individual investors. If more of government pension funds savings were invested through the private capital market or if private-sector pension plans were extended, it would probably increase domestic resources available for corporate finance. This might help to reduce the level of foreign ownership and control of Canadian industry.

Canadian funds in total held assets equal in value to about one-fifth of GNP in the early 1960s. That ratio has since grown to one-third. A projection of such funds, based on continuation of the present system with some growth in the coverage of private sector employees, suggest that by the year 2031 trusteed pension plans alone could hold assets equal to two-thirds of GNP. Consolidated revenue and insured plans could well hold assets by that time equivalent to a further one-fifth of GNP. So even if the CPP and QPP moved to a pay-as-you-go basis, leaving no fund of assets to invest, the total assets of the remaining pension funds would be very large.


Investments of the public sector plans
Distribution of assets of provincial and municipal government and crown corporation trusteed pension plans


How the Caisse de dépôt invests
Percentage distribution of the general fund in different assets


Investments of the private sector plans
Distribution of assets of private sector trusteed pension plans

Dealing with the ravages of inflation

Whatever strategy is planned for pensions over the next fifty critical years may be condemned to failure unless it confronts the problem of inflation.

Economists and the pension industry have had their disagreements on the subject of indexation. The sponsors of private pension plans regard indexing as an open-ended commitment to increasing costs that are beyond their control and that may adversely affect their competitive position. The same reasoning has led many people to the conclusion that if all pensions were fully indexed to protect against inflation it would bankrupt the economy.

Some of the doom and gloom predictions about indexing derive from a failure to make proper comparisons; they project pensions in inflated (or future) dollars while projecting GNP in terms of today's prices. Suppose, for example, that 5 per cent of this year's GNP is devoted to pension benefits, that prices increase at 10 per cent a year and that pensions are fully indexed. If there were no increase in real GNP (that is after allowing for inflation) pensions would still represent only 5 per cent of GNP as long as the ratio of pensioners to workers did not change, because GNP itself rises with the price level. If the ratio of pensioners to workers doubles over a given period, the pension pay-out at the end of that period would be 10 per cent of GNP but the increase will be the result of demographic changes and not of inflation. If real GNP were to rise and the ratio of pensioners to workers stayed the same, the share going to pensioners would decline.

Some concern justified

There are two aspects of indexing where some concern may be justified. One is the impact on stabilization policy and not much is known about this. There has been little research on how indexation might affect the efficiency of monetary policy, for example. The second concern is one of fairness. Care must be taken that the protection of the interests of one particular group is not provided at the expense of others. At the very least, inflation protection must be extended to all older people and not just to the participants of occupational pension plans.

A great many Canadians over the age of 65 depend on Old Age Security and Guaranteed Income Supplements, perhaps augmented by CPP or QPP benefits as their main sources of income. All of these payments are now indexed to the Consumer Price Index. But the fact that these transfer payments have kept up with inflation does not mean that they were adequate to start with. Older people have been hit particularly hard by rapid increases in food prices, which have gone up faster than the Consumer Price Index itself. And the fact that our older citizens are driven to rely more on government payments than on their own savings can be viewed as a restriction of their freedom of choice.

Private pension plans and inflation

Despite the significance of government pension plans and other transfer payments to Canada's senior citizens, benefits from private pension plans are still an important source of income for many old people. Many of the private plans are of recent origin, but as they develop and expand, their place in the retirement income system will increase in importance. Whether or not participants in these plans can be protected against inflation will be crucial in any decision on the future mix of public and private plans for income support of the elderly.

At the moment, few private-employer pension plans provide participants with adequate protection against inflation after retirement. Many plans do provide a good deal of such protection up to the point of retirement, except for workers who change employers. If nothing can be done about these limitations, many occupational plans will almost certainly be absorbed by expanded public programs.

Employees enrolled in plans where the benefits are based on some relationship to earnings just before retirement will be in a much better financial position after retirement than those whose pension is based on average earnings over an entire career. Some career-average plans do adjust benefits from time to time to compensate for inflation and flat benefit plans may increase benefits as part of the collective bargaining process.

Employees who move from one employer to another may be particularly vulnerable during periods of rapid inflation. Provincial legislation in most provinces provides that contributions made by an employer to a pension plan on behalf of an employee are locked in, or "vested" after a certain period of time — usually after the employee has reached the age of 45 and completed ten years' service. An employee who moves on before these conditions are met will not be entitled to any benefits from the employer's contributions. Once the vesting conditions are met, however, the employee may be entitled to some pension based on most recent earnings with that employer. Whatever amount has been contributed up to the time of departure will be used to buy an annuity, the payment of which is deferred until the employee retires. But the amount of the final pension in this case will be much less than if it had been based on the employee's earnings just before retirement. Clearly, the more mobile workers lose out on pension benefits. Those who move before vesting takes effect will not be entitled to any pension benefits, even though there may have been contributions to the pension plan for almost ten years. The fact that pension credits in one employer's plan cannot usually be transferred to the pension plan of another employer leaves many employees without pension benefits at all.

In recent years, private pension plans sponsored by employers have been caught in a squeeze between low rates of return on their investments and rapidly increasing benefit liabilities. As employees' salaries increase, the funds set aside to provide pensions may prove inadequate because the final average earnings on which the pensions will be based may be higher than anticipated. The law requires that pension funds be reviewed about every three years to make sure that they have sufficient funds to meet their liabilities. The review procedure must make some educated guesses on how wages and salaries will increase up to the point of retirement of employees, what will be the rate and age at which employees will retire, and the expected rate of return on the investments of the pension fund.

Unexpected inflation may play havoc with assumptions about the rate of return on investments and the level of wages and salaries. Pension funds may then find that their funds are not sufficient to meet their liabilities. Perhaps understandably, while employers are worried about just meeting their current pension liabilities, they are likely to be reluctant to even consider the question of indexing the pension benefits paid to their employees after retirement.

Solutions to these problems will not be easy. Some possible answers are discussed in more detail in *One in Three*. The Council has made a number of specific recommendations dealing with inflation and with other pension questions highlighted on the preceding pages.

Coming

Special economic report on Newfoundland

It is a realm of paradox.

By most "quality of life" standards Newfoundland rates high. Its air is cleaner, its roads less congested, its climate more temperate, its countryside less spoiled, than most other places where Canadians live and work. Its crime rates are low: a murder rate one-sixth the Canadian average, a robbery rate one-seventh. The incidence of mental illness, suicide, cancer, divorce, and alcohol consumption is below the Canadian average. Relatively few homes are mortgaged. Property taxes are low, and in some places non-existent.

Yet against these credits (among others) one must array these apparent debits (among others): an unemployment rate that is the highest in Canada and, if anything, probably understated by the official statistics; average incomes that are notoriously and persistently low; a high cost of living (one recent comparison showed that food in St. John's costs 15 per cent more than the average in other Canadian cities, and gasoline and tobacoo are 20 per cent higher); relatively low educational levels, high dropout rates, and the lowest teacher-student ratios in the country; the fewest hospital beds, doctors, and dentists per capita; relative overcrowding of houses; and a relatively high rate of hypertension (perhaps due to the high salt content of diets).

The Newfoundland income data can mislead. Wages and salaries are close to the Canadian average. Self-employment is more prevalent than elsewhere. But when reported "market income" is spread among large families containing more children and unemployed adults than elsewhere, *per capita* market income becomes less than *half* the Ontario average. Disposable income *per capita* is brought to within 70 per cent of the Canadian average if one takes account of (a) federal government income transfers — including family allowances, pensions and net unemployment insurance benefits — that equal an extraordinary 28.9 per cent of Newfoundland personal income, and (b) the progressive income tax system that yields low *taxable* incomes because of the large number of dependents and the seasonal nature of many jobs, plus the inability of the tax system to capture income in kind (probably more extensive than elsewhere in Canada). One can even further jiggle the numbers to demonstrate that *household* income in Newfoundland is 90 per cent of the Canadian average (because of the larger families there).

But no amount of statistical sleight-of-hand will succeed in disproving the substantial income disparity that exists between Newfoundland and the rest of the country.

Would big offshore oil development correct the situation? Not entirely, though it would certainly help. Any oil revenue flowing to the province would reduce, in whole or in part, the amount of equalization payments, depending on what equalization formula is chosen in the future. Thus there would be a substitution of "economic rent" for an interprovincial transfer, without necessarily raising either employment or incomes. This illustrates Newfoundland's own "catch 22" — autonomous economic growth will trigger a cut in income transfers, putting a "fiscal drag" on the province that could dampen the income and employment effects of any large new industrial development.

Clearly, any major change in Newfoundland's economic situation, if there is to be a change, must be rooted in a more fundamental assessment of the circumstances of this province — and that is the approach being followed by the Economic Council of Canada in its current Newfoundland project. The Council plans to issue its report towards the end of the summer, having spent over two years and about $1.5 million on a set of Newfoundland studies at the request of the federal and Newfoundland governments.

In consultation with both levels of government, the Council designed its research program to analyze alternative means of (a) reducing Newfoundland's unemployment rate, (b) raising earned incomes in the province (especially through higher productivity and employment), (c) reducing the Newfoundland dependency on income transfers, and (d) assisting the Newfoundland government to plan its development strategy. The conclusions reached in the consensus document will, of course, be those of the Council alone.

This project — the first of its kind by the Council since it was established in 1964 — grew from a continuing concern with regional disparities, culminating in the April 1977 report *Living Together*, which focused on productivity differences and the potential for reducing them.

A review of *Living Together* (recently reprinted) indicates the tenor of the Council's basic approaches to regional income disparities. While it argued for their reduction, it recognized a conflict between economic efficiency and regional equity and suggested there are limits on how far equalization should be pushed. A lot of onus was put on the individual; the Council believes that any person with income or employment problems must be willing to move at least within his or her own province to get a job. It opposed subsidies and programs aimed at preventing the concentration of population in the cities. It declared that if an area had no hope of providing its inhabitants with a standard of living close to the Canadian average, "it should be left to its fate". The Council also felt that no additional government expenditures should be allocated to reduce regional disparities — that within present budgets improvements could and should be made to existing subsidies and programs.

It was because one of the Council's recommendations in *Living Together* specifically exempted Newfoundland — a recommendation dealing with the provincial use of fiscal policy — that the Newfoundland government requested the more detailed study of that province, in pursuit of clearer guidance.

Pension

au courant

Economic Council of Canada

Au Courant est également disponible en français

This is the first issue of the new quarterly magazine published by the Economic Council as part of its role as an educator and communicator on economic affairs to the general public. *Au Courant* is an expanded, higher circulation version of the periodic newsletter *Bulletin* which had been published by the Council for several years. The objective is to present to the interested citizen brief, non-technical summaries of the Council's various publications, as well as reports on its current program of research and analysis of Canadian economic issues.

Information on recent Council publications and how to order them will be found in the centre insert to this first issue of *Au Courant*. It is important to emphasize that the magazine contains reports on both the publications of the Council itself, and of research monographs and papers prepared for the use of the Council by members of its staff and by others. In the latter cases the views and conclusions are, of course, those of the authors; neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Council. *Au Courant* is published under the authority of the Chairman of the Economic Council of Canada, who bears final responsibility for the publication of the magazine under the imprint of the Council.

Au Courant is prepared in the Communications Division of the Economic Council under the direction of Donald Hanright, with additional contributions to this issue by Monica Townson, Barbara Campbell (production editor), and Linda Wells (graphics). The French-language version of the magazine was produced under the direction of Jacques Fortin with translation services directed by Louis Chabot and editing by Michel Forand.

Publications of the Economic Council of Canada are available from the Canadian Government Publishing Centre in Hull, Quebec, K1A 0S9, or directly from a large number of bookstores across Canada designated by the Publishing Centre as authorized agents for the sale of Canadian Government publications. See centre insert in this issue for ordering information. In addition, a number of other publications of the Council described in this issue are available directly from the Council. Inquiries concerning these, and correspondence relating to *Au Courant*, should be directed to:

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Economic Council of Canada

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Ottawa, Ontario K1P 5V6

(613) 993-3591

ISSN-0226-224X

au courant

Economic Council of Canada

In this issue:

Preview of the Newfoundland report

Regional disparities revisited

Skilled worker shortages

Volume I, No. 2 Fall, 1980

Publications of the Economic Council of Canada

Three major consensus reports will be released over the next few months, presenting Council viewpoints and policy recommendations. A report on the economy of Newfoundland will be available soon, and details will be found on page 12. The Seventeenth Annual Review of the Economic Council, focusing on productivity, will be released this fall, and the final report of the Regulation Reference, dealing with the economic impact of regulations, will be published early next year.

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council as a whole.

The Nature of Public Pension Plans: Intergenerational Equity Funding and Saving, by A. Asimakopulos (EC22-79/1980; $3.50 in Canada, $4.50 other countries)

Canada's Trade Relations with Developing Countries: The Evolution of Export and Import Structures and Barriers to Trade in Canada, by V. Corbo and O. Havrylyshyn (EC22-80/1980; $12.00 in Canada, $14.40 other countries)

The Future Population and Labour Force of Canada: Projections to the Year 2051, by F. T. Denton, C. H. Feaver and B. G. Spencer (EC22-72/1980; $3.50 in Canada, $4.20 other countries)

The Future Financing of the Canada and Quebec Pension Plans: Some Alternative Possibilities, F. T. Denton, A. L. Robb and B. G. Spencer, (EC22-72/1980; $3.50 in Canada, $4.20 other countries)

Canadian Private Direct Investment and Technology Marketing in Developing Countries, by S. Langdon (EC22-82/1980; $8.95 in Canada, $10.75 other countries)

The Analysis of Turnover in Ontario Industrial Establishments, by N. Leckie, G. Betcherman and K. Newton (EC22-77/1980; $2.50 in Canada, $3.00 other countries)

The Economics of Minimum Wages with Special Reference to Canada: A Review of the Literature, by E. G. West and M. McKee (EC22-81/1980; $12.25 in Canada, $14.70 other countries)

Wage Inflation in Canada, 1955-75, by D. A. Wilton (EC22-79/1980; $4.50 in Canada, $5.40 other countries)

Skills and Shortages. A Summary Guide to the Findings of the Human Resources Survey, by Gordon Betcherman, (EC22-87/1980; $2.00 in Canada, $2.40 other countries)

All the publications listed above are available across Canada from bookstores where Government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from Canadian Government Publishing Centre, Hull, P.Q., K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Other Publications

The following reports and the Discussion Papers listed below are available from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario K1P 5V6.

Final Report of the Centre for the Study of Inflation and Productivity.

Annual Report of the Economic Council of Canada for the year ending March 31, 1980.

Discussion Papers

Discussion Papers are typically of a technical nature, and are intended for distribution in limited numbers to professional economists who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they were written, and are available without charge. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the paper has been endorsed by the Council.

No. 152 "Government Incentive Programs in Canada: Are They an Effective Tool in Stimulating Investment in Productive Plant and Equipment?," by Ernst and Whinney, Chartered Accountants

No. 156 "Aspects of Job Search in Canada," by A. Hasan and S. Gera

No. 162 "Interest Arbitration and Wage Inflation in the Federal Public Service," by G. Saunders

No. 163 "Les branches exposées et abritées de l'économie canadienne : une évaluation empirique," bv B. Decaluwe

No. 164 "Changes in Poverty in Canadian Metropolitan Centres, 1967-76," by L. Auer and K. McMullen

No. 165 "An Analysis of Canadian Wage Contracts with Cost-of-Living Allowance Clauses," by David A. Wilton

No. 166 "The Relative Impact of Wage-Price Controls and Wage-Indexation on Economic Growth and Price Stability," by S. Rao

No. 167 "The Canadian Interest in an International Wheat Agreement," by Anthony P. Ellison

No. 168 "Pensions in a General Equilibrium Model of Canada," by Joel Fried and Peter Howitt

No. 169 "Search Unemployment and the Resulting Wage: A Test of Two Models with Canadian Data," by S. Gera and A. Hasan

No. 170 "Impact of Foreign Prices and Interest Rates on Canadian Economy under Alternative Monetary and Exchange Rate Regimes," by S. Rao and J. D. Whillans

No. 171 "Évolution de la pauvreté entre 1967 et 1976 dans les centres métropolitains du Canada," by L. Auer and K. McMullen

No. 172 "Canadian Industry and the Challenge of Low-Cost Imports," by R. A. Matthews

Newfoundland

Dependency to self-reliance

Six hundred miles east of Halifax, where the St. Lawrence River meets the grey Atlantic Ocean, lies the island of Newfoundland. The most eastern land area in all of North America. Here the Vikings came and settled as early as 1000 A.D. And here, in the sixteenth century, British west country fishermen began to winter over in small outport villages which eventually grew into permanent settlements. The wealth of cod, halibut, herring and other fish that lured these early settlers to Newfoundland's shores continues to be one of its most valuable resources.

Newfoundland has made tremendous strides since it entered Confederation 30 years ago. But even so, the province remains synonymous with poverty, high unemployment, low incomes, isolation and – in the broadest sense – dependency. The intractability of Newfoundland's economic problems has frustrated provincial and federal governments since 1949. Successive policies have been tried, but none has provided a lasting solution.

Newfoundland's difficulties are part of Canada's larger anxiety with broad regional economic disparities. Much of the Economic Council's work to date has dealt with these concerns and it published a major report on the subject in 1977 (see below). Stories highlighting this earlier work begin on page 14 of this issue. Clearly, research into any one of Canada's regions contributes to a better understanding of economic problems of the country as a whole.

> *Newfoundland is said to be celebrated for its codfish, its dogs, its hogs, its fogs and its bogs. That is a very erroneous opinion, I assure you.*
>
> -Sir William Whiteaway
> Prime Minister of Newfoundland, 1897

The Council's study of Newfoundland was designed to analyse alternative means of:

- reducing the unemployment rate in Newfoundland;
- raising earned incomes in Newfoundland, especially through raising productivity and employment;
- reducing the dependency of Newfoundland on transfer payments from the federal government;
- assisting the Newfoundland government to plan its development strategy in the medium term.

Some people have claimed that life in Newfoundland is better than one might think from looking at the official statistics. Newfoundlanders, they say, are able to maintain a fairly decent standard of living by a combination of declared income from seasonal work and unemployment insurance, and undeclared income in kind, from fishing and building their own boats and houses. Others have tried to explain away unemployment and disparities in incomes by blaming Newfoundland's demography or industrial structure.

The Council's work shows that the disparities are real. Low average incomes are even more serious than the statistics would indicate, because the cost of living is high. And unemployment may be even worse than the numbers would have us believe. Even more tragic, the province has become dangerously dependent on transfers from the rest of Canada while at the same time transferring elsewhere huge sums of money in the form of lost revenue on natural resources.


National Film Board of Canada

The full report of the Newfoundland project will be released in the next few weeks. On the following pages a preview of some of the Council's findings is presented in a series of articles on the economy of Newfoundland.

First ever study of a provincial economy

The Newfoundland project marks the first time the Council has conducted an in-depth study of a provincial economy since it was established in 1963. But the work continues a tradition of interest in regional disparities, culminating in the April 1977 report *Living Together*, which focused on productivity differences between regions and the potential for reducing them.

In that report, the Council made a recommendation about how provinces might use fiscal policy to deal with unemployment rates above the national average. But Newfoundland was excluded from the recommendation, because, the Council said, "Newfoundland's case is different."

Because of that exclusion, the Newfoundland government asked the Council to undertake a detailed analysis of the province's economy to serve as a base for future policy.

Work on the project began in 1978 and the Council was assisted by an advisory committee of senior officials from both the federal and provincial governments. Much of the research was carried out in Newfoundland and an office was set up in St. John's to co-ordinate the work.

Newfoundland

Unemployment: myths and realities

When Canadians think of unemployment, it's a safe bet that one of the first places they think of is Newfoundland. So much has the province become a metaphor for unemployment that when an Ontario community recently suffered a wave of lay-offs, it became known as the "Newfoundland of Ontario."

A great deal of mythology has developed about Newfoundland's unemployment. The myths are unfair, damaging and – worst of all – inaccurate, as the Council's researchers discovered. One myth is that unemployment in Newfoundland is high because people there aren't as willing to work as they are elsewhere. A second myth is that Newfoundland's jobless problem is not really all that serious because people who are out of work can fish and hunt for food and cut wood for fuel.

Those were only two of the misconceptions which the Council tackled with an intensive labour market comparison survey. Some 2,300 Newfoundlanders and 1,400 Ontarians took part in the survey; about 460 of them were unemployed. The results were revealing.

First, the work ethic is very much alive in Newfoundland. Compared with their Ontario counterparts, unemployed Newfoundlanders made a greater effort to find work. More than Ontarians, Newfoundlanders search for jobs outside their own locality and even outside the province. Newfoundlanders are also more mobile than Ontarians. They are not only willing to work elsewhere in the province or outside the province, but they have proven that willingness by holding such jobs in the past.

The vast majority of Newfoundlanders who were out of work were willing to accept any suitable work. Their main interest was in getting a job at a reasonable wage: only a small percentage were looking for a specific kind of work, and they were not reluctant to undertake retraining.

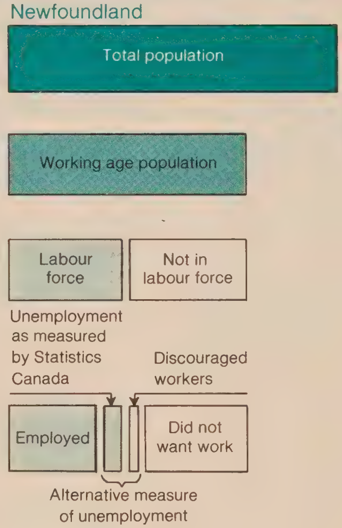
The main reason for this pattern of intensive job-hunting, high mobility and great flexibility is not hard to find: there simply are not many jobs available in Newfoundland.

A second broad result of the survey was strong evidence that Newfoundland's unemployment problem is both very real and probably even worse than the official figures suggest. True, Newfoundlanders who are out of work – especially those in rural areas – can get fuel and food from the forests or the sea. But in this they are little different from rural workers in Ontario, who can raise vegetable gardens.

Measuring "true" unemployment is a tricky affair. For several years now critics in Newfoundland have argued that the province's unemployment rate is higher than the one reported each month by Statistics Canada.

Much of the argument centres on the participation rate. StatsCan divides the

The working population in Newfoundland



working-age population (those between 15 and 65) into two groups – those in the labour force and those not in the labour force (see chart). The participation rate is a measure of the proportion of the working-age population which is in the labour force – that is either working or looking for work. The participation rate in Newfoundland was around 50 per cent – in other words, only about half the people of working age were in the labour force. In Ontario, the rate was almost 64 per cent.

The critics have suggested that many of the people now classed as being outside the labour force (and therefore not unemployed because they are not actively searching for work) are potential workers who have simply become discouraged and given up looking for a job. If there were more jobs, the argument runs, these discouraged workers would come looking for them.

Based on this approach, the People's Commission on Unemployment, headed by Father Desmond McGrath, came up with a much higher rate of unemployment. Using Ontario's participation rate to estimate Newfoundland's potential labour force, the Commission calculated the province's unemployment rate for 1977 at 34 per cent. The Economic Council's study found that the People's Commission was on the right track, but it had gone too far.

Even if jobs were as plentiful in Newfoundland as in Ontario, the participation rate would apparently not rise to Ontario levels, though it would climb substantially. Among those whom StatsCan classifies as not in the labour force, there are many people who say they want work, but have become discouraged by the lack of jobs. They are the hidden unemployed.

When jobs are scarce locally, many people migrate to other provinces looking for work. For the individual out-migrant, there are benefits to moving. Out-migrants tended to earn higher-than-average incomes and had lower unemployment rates than those who stayed in Newfoundland. But evidence suggests that the unemployment rate is very high among native Newfoundlanders who migrate back to Newfoundland.

Where can we look for a solution to Newfoundland's unemployment problem? The Council's studies have eliminated the idea that somehow unemployment is the fault of Newfoundland workers themselves. Nor can it be blamed on the kind of frictional unemployment that results when people are simply between jobs.

The biggest culprit identified by the Council is Newfoundland's generally low level of productivity relative to wages. In many cases, wages in Newfoundland are almost on a par with those of Ontario, but productivity is far lower. The productivity gap, the Council has concluded, is responsible for almost half of the difference in unemployment rates.

Productivity is the key to job creation

Why is Newfoundland's unemployment higher and its incomes lower than elsewhere in Canada? A major reason is poor productivity.

Productivity is a measure of an economy's output compared to the input needed to produce it. Private companies and governments alike use things like land, buildings, raw materials, machinery and labour (the inputs) to produce goods and services (the outputs).

Some combinations of inputs and techniques of production result in more output per unit of input than others.

Higher productivity is partly a matter of having the work well organized, having the right materials and machinery to work with, and having workers who are well trained with lots of practice. It is not simply a matter of workers putting out more effort. Good marketing, good location and a longer working season also help raise productivity because they all bring in more business to an existing store or factory.

In the last two decades, productivity has been rising in Newfoundland. But there is still a large gap between that province and the rest of Canada. The difference is particularly marked in comparison with Ontario. Since 1961, Newfoundland's output of goods and services per worker has varied between 75 and 90 per cent of the Canadian average. Output per worker was only 67 to 82 per cent of that in Ontario.

To find out more about productivity differences between Newfoundland and the rest of Canada, the Economic Council commissioned studies of nine selected industries. In each industry, information was gathered from firms in Newfoundland and from similar firms in other provinces. Ontario was used as the comparison province for eight of the industries; for fish processing, Nova Scotia was used.

The research produced a snapshot of the Newfoundland economy in miniature. In only one of the industries was productivity higher in Newfoundland than in Ontario. In each of the other eight, the Newfoundland industry's productivity was found to be lower than that of its Ontario or Nova Scotia counterpart. The differences ranged from only a few percentage points to as much as 38 per cent.

To some extent, these differences merely reflect the lack of competition in Newfoundland and the higher prices Newfoundland firms must pay for some of their inputs. They also mirror other problems in the Newfoundland economy: the dispersion of the population, which raises costs; the inefficiency of the transportation and distribution system, which does the same; and the slow spread of new technology to the province.

In some industries, the gap in productivity between Newfoundland and Ontario or Nova Scotia was greater than the gap in wages between Newfoundland workers and those in the other province. When firms in Newfoundland pay their workers more money relative to their output than firms on the mainland, they have difficulty meeting the competition of mainland firms. With higher productivity relative to wages, they could produce goods and services at a low enough price to entice Newfoundland consumers into buying their products rather than those 'from away'. And that, in turn, would create more jobs in Newfoundland.

Fish plants less efficient

On the face of it, there does not seem to be much difference in productivity between fish processing plants in Newfoundland and those in Nova Scotia. In both provinces, total production costs are about 83 per cent of sales.

But that figure masks some differences. In Nova Scotia, fish plants pay higher prices to the fishermen for the cod, flounder, sole, redfish and herring that they process. As a result, more than 60 per cent of their sales revenue is spent on raw fish. Newfoundland plants, paying lower fish prices, spend only 48 per cent of their sales revenues on fish.

The reason both industries wind up with the same total costs, according to researcher Derek Briffett, is that Nova Scotian plants are more productive than their Newfoundland counterparts. For every dollar of sales, the average Nova Scotia fish plant runs up labour costs of less than 15 cents. The comparable figure for Newfoundland is 22 cents.

Briffett, of Glovertown, Nfld., had already acquired international experience in England before undertaking the fish plant study for the Economic Council. The gold medalist in his graduating class, he was one of four Memorial University students who were made available to the ECC through the university's Co-operative Student Training Program.

He found that every measurement of productivity in fish processing puts Newfoundland behind Nova Scotia. Labour productivity is about 38 per cent lower in Newfoundland than in Nova Scotia; wages, though, are only about 10 per cent lower.

The machinery used is less productive too. The ratio of sales to the machinery's value is 38 per cent lower in Newfoundland. Another yardstick of capital productivity – sales to total fixed assets – is nearly 50 per cent lower in Newfoundland.

Briffett suggests several reasons for lower productivity. Newfoundland's seasonal fish plants work a shorter season than those in Nova Scotia so they don't get as much use out of their capital equipment. There were more work stoppages in Newfoundland and the employee turnover rate was almost double that of Nova Scotia. Possibly as a response to this, the fish processing industry in Newfoundland has made greater attempts to automate production and so more capital equipment is used in relation to output.


National Film Board of Canada

Construction slow to adopt new technology

A job common to construction firms everywhere is the building of a foundation wall. That simple task provides a graphic example of the contrasts between the construction industries in Newfoundland and Ontario.

One difference shows up in the formwork for laying concrete foundations. Ontario builders have invested in prefabricated forms to hold the concrete so the forms can be re-used and it takes less time to assemble them. Less than eight hours of labour is needed to assemble the forms to hold one yard of concrete, but Newfoundland firms take more than 11 hours of labour to do this work because they do not have the same equipment.

Lack of competition

Productivity in the Newfoundland construction industry is about 30 per cent lower than it is in Ontario, and one reason is the lack of competition in Newfoundland. Contractors have fewer subcontractors (such as electrical, plumbing and masonry) to choose from and fewer suppliers available from whom they can buy things like concrete and steel. Reduced competition, higher transportation costs and lower productivity mean building costs are higher; concrete and gravel are both about twice as expensive in Newfoundland as they are in Ontario.

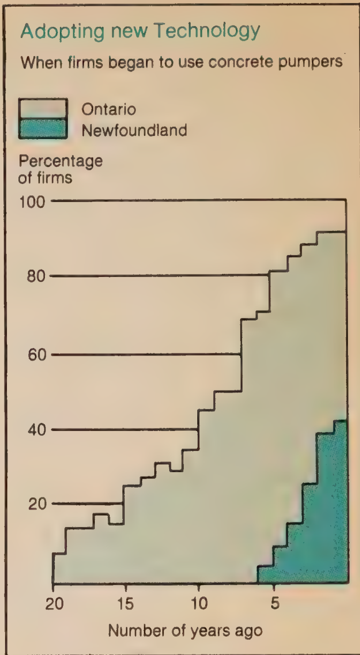
The relative absence of competition and the greater distance from suppliers' markets also show up in the speed at which contractors in the two provinces adopt new techniques which can make them more productive (see chart). Ontario contractors began using concrete pumpers more than 20 years ago. And today more than 90 per cent of the firms in the industry use them. Pumpers speed up the flow of concrete and are particularly efficient when work is being done above ground level. In Newfoundland, the first pumper was bought much more recently and only two-thirds of Newfoundland firms have ever used one.

Ensolite is a special blanket which keeps concrete warm so that it can set in cold weather. It makes winter construction easier. Ontario contractors, forced by competition and rapidly rising costs to keep operating in winter, began using Ensolite three years ago and the product has since spread to about one-quarter of the industry. In Newfoundland, not one of the firms surveyed had been using Ensolite, though several expressed an interest in it.

Why does new technology spread so slowly? In the case of the concrete pumper, it is a matter of scale. Pumpers are expensive. They are usually owned by a leasing company which rents them to contractors. Pumpers should be used as much as possible within a small area so that little time is lost moving them from site to site. Because building activity in Newfoundland is dispersed over a wide area, the use of pumpers is less economic than it is in Ontario. In the case of Ensolite, the reason Newfoundlanders knew nothing about it is more basic. Firms find out about new products from salesmen; Ensolite is marketed through Montreal and its salesmen seldom, if ever, visit Newfoundland.

Seasonal work

Another cause of low productivity in the Newfoundland construction industry is the fact that it is very seasonal. Construction work in Newfoundland drops off far more sharply in the winter months than it does in Ontario. This means a contractor's equipment gets less of a chance to earn its own keep in Newfoundland, and contractors claim the cost of winter work is almost 27 per cent higher than in summer. Ontario builders experience only 13 per cent higher cost in winter.



Differences in insurance

There are some startling differences between the insurance industries in Newfoundland and Ontario. In Ontario, 1,400 independent agencies sell insurance. In Newfoundland, there are only 25, several of which are divisions of large diversified organizations.

Despite their size – or perhaps because of it – the Newfoundland insurance agencies are far less productive than their Ontario counterparts.

Here are some of the findings of a study of the insurance industry carried out by Memorial University graduate Bruce Hollett, of St. John's, Nfld.:

- Productivity is 38 per cent lower in Newfoundland than Ontario, but wages are only 25 per cent lower.
- Telecommunications costs are 88 per cent higher in Newfoundland.
- The ratio of rental expenses to commissions is 50 per cent higher.
- Newfoundland agents tolerate a level of bad debts 4.5 times as high as Ontario agents and let their accounts receivable run 62 per cent higher than in Ontario.
- Employees have 13 per cent less education and 53 per cent less experience in Newfoundland than in Ontario.
- Labour turnover is 17 per cent in Newfoundland and only 8 per cent in Ontario.
- Salaried workers sell 43 per cent of the insurance in Newfoundland versus 26 per cent in Ontario where selling on commission is more common.
- In Newfoundland, alone among the provinces, insurance policies are subject to an 11 per cent special sales tax.

Newfoundland agencies outperformed the Ontario agencies in only one area: they were much faster in introducing computers.

Mixed performance from grocery stores

There are some vivid paradoxes in the Economic Council's portrait of the grocery store industry. Almost 100 grocery stores in Newfoundland and Ontario were surveyed and analysed by Dr. Walter Good, a native of Fortune, Nfld., who is now Associate Dean of Business at the University of Manitoba.

He found that, depending on size and ownership, some grocery stores in Newfoundland are more productive than those in Ontario, and some are less productive. The over-all figures suggest that labour and capital productivity are about one-third lower in Newfoundland than in Ontario.

But those figures are misleading. Among outlets that are owned by chains, Newfoundland grocery stores are more productive than those in Ontario by almost every measure available. But chain stores are not as common in Newfoundland as they are in Ontario.

Some broad lessons emerge from the study. First, lower productivity in Newfoundland is not inevitable. Second, larger establishments, and especially those that were able to achieve a high rate of utilization of their buildings and equipment have higher productivity. Larger stores and a higher rate of use are achieved by locating the stores in the right places and pursuing good marketing methods. Third, higher productivity is often found in business establishments that are part of larger organizations which operate nationally. One reason is that all outlets in a chain must meet fairly uniform standards; managers can spot the laggards by comparing different stores and they then take steps to improve performance.

Other links to bigger organizations are also useful. Co-op grocery stores in Newfoundland are almost as productive as the chain stores. They also compare favourably to their closest Ontario counterparts, the voluntary group stores like IGA and Red & White. In both cases, the stores have the advantages of access to bulk wholesale services.

What really pulls down the Newfoundland averages is the fact that most of the province's grocery stores are small grocery, confectionery and variety stores located in small communities. They are less than half as efficient as the chain stores or co-ops.

Dominion Stores Ltd.

Greater awareness needed on productivity

Raising productivity is not easy. It cannot be done with one simple government policy or program. The reasons for low productivity may be different for each industry, indeed for each firm. Similarly, the solutions will vary from industry to industry and from firm to firm. But the Economic Council believes that actively pursuing productivity improvements, especially in local industries like construction, lumber production and even in the local service industries is certainly worthwhile. There are far more jobs in these sectors – and often more opportunities to create jobs – than in the export industries.

While most people are fully aware that export industries have to be productive and keep their costs down in order to compete against foreign suppliers, fewer people seem to be aware that it is just as important to keep Newfoundland's productivity high and its costs down in industries like lumber production where local workers have to compete against outside competition from imports. A job in an import-competing industry is just as good as one in the export business.

Still fewer people are aware that productivity needs to be high in an industry like construction where there are neither imports nor exports to compete against. The fact that it takes longer to construct buildings in Newfoundland means they cost more than they should. Businesses that use these buildings have to pay higher prices for accommodation than do their counterparts in Ontario. These high costs automatically put them at a disadvantage so they may fail to survive. Knowing in advance that building costs are high, many businesses do not even try to establish in Newfoundland in the first place.

If the oil industry really does come to Newfoundland, whether the spin-off of jobs in related industries goes partly to Newfoundland, or entirely passes the province by, depends largely on productivity – on whether Newfoundland workers and businesses can be productive enough and adaptive enough to turn out the kinds of goods and services that industry really needs when it needs them.

How can productivity be increased? The Council has some recommendations in its report. For the moment, suffice it to say, first of all, that it is important for business, labour, government, teachers and civic leaders to become aware that productivity and performance really matter – not just in producing natural resource goods for export, but in all sectors of the economy.

Second, it is important to allow the development of larger urban centres in Newfoundland – not necessarily as places to live but as places to work and shop – places where larger businesses can survive because the market is big enough to let them make full use of their stores, machinery and equipment.

Third, there is a big role for training and educating both workers and management, preferably on the job. This implies a big role for educational institutions, including the colleges and Memorial University.

What about natural resources?

Can Newfoundlanders count on plentiful natural resources to solve their economic problems?

Offshore oil and gas discoveries have raised hopes and expectations. But oil finds won't reduce unemployment in the province if workers flood in from the mainland. Incomes and government revenues won't necessarily rise either if most of the revenues go to the federal government or the oil companies. And changes in world demand and outside competition spell success or failure to such industries as mining and forest products.

Forest products

Forest industries in Newfoundland face a relatively bright future at the moment. World demand for newsprint – one of the province's biggest manufacturing industries – has risen dramatically since 1975. And the decline in the value of the Canadian dollar has brought the newsprint mills into a better position compared with their chief competitors in Scandinavia. While these conditions last, employment should continue to increase – and the number of workers employed in forest industries could go up by more than 10 per cent by 1983.

Just under three per cent of Newfoundlanders who have jobs are working in the forest industries at the present time. A major increase in the output of forest products might be possible if attempts were made to integrate the forest industries using new technology that has been developed and implemented elsewhere in Canada. At present, the logging, sawmilling and pulp and paper industries operate independently of each other. Independent sawmills have some difficulty getting large stands of good sawlogs, first because the large trees are scattered widely among stands of smaller trees in Newfoundland and, secondly because most of the best lumber stands were turned over long ago to the two major forest companies that produce newsprint instead of lumber.

Integrated forest products operations in the western provinces and Quebec, for example, use new machines that produce a combination of lumber and wood chips for pulp mills from logs as small as four inches in diameter. If such integrated operations were introduced into Newfoundland, more lumber could be produced locally, and lumber is a more valuable product than wood pulp.

Negotiations will be necessary among the government and the two large newsprint companies which would have to cooperate both in letting their larger logs be used for lumber and in using the wood chips that would be produced as a by-product.

Hibernia: a black gold mine?

Has Newfoundland struck black gold in its offshore oil fields?

It's too soon to say for certain, but it looks good. Recent tests show that at least 20,000 barrels a day could flow from the Hibernia wells alone – and more than a dozen sites in the vicinity share its geological characteristics.

But even if offshore oil and gas are there for the taking, it's as well to keep some considerations in mind:

• the revenues Newfoundland gets from oil or gas discoveries depend on how the question of ownership and control of offshore resources is resolved. It also depends on what kinds of revenue sharing arrangements are negotiated.

• if a system of auctioning oil and gas leases for exploration offshore were instituted, the way Alberta does for exploration on land, and if Newfoundland received all or much of the auction fees, the province might realize considerable revenues even before major oil production starts sometime in 1985 or later.

• money from royalties on oil production may not start coming in until five to eight years after plans to develop the fields commercially are underway. And when it does, it will have to be handled carefully. A wise investment of funds is essential to the province's future prospects.

• even big oil finds may not reduce Newfoundland's unemployment very much. Workers will be needed on a short-term basis to build drilling platforms or pipelines but there are only about 5,000 jobs per year in developing an oil field – and Newfoundland has over 30,000 unemployed. Even in the North Sea, where a number of oil and gas fields were discovered, oil-related employment still only accounts for three to four per cent of total employment in Scotland and Norway.

• increases in provincial income from this resource will reduce the equalization payments Newfoundland now receives from the federal government to put it on more of a par with the wealthier provinces. Under the existing formula, equalization payments may cease within the next 10 years if large oil revenues are realized.

Nevertheless, the advent of the oil industry raises great hope for developing related industry, especially in the St. John's urban area. But industry, labour, and government will have to plan for it.

National Film Board of Canada

Hydro problems

As a cheap source of energy, the abundant hydroelectric resources at Churchill Falls, Labrador, should be able to attract both industry and export income to Newfoundland. But at the moment, the province is locked into an agreement allowing Hydro Quebec to buy most of the electricity generated at Churchill Falls at fixed prices over a very long period of time.

The explosion of world energy prices since the contract was negotiated has given Quebec an unexpected windfall gain on electricity produced in Newfoundland – greater in total than the equalization payments and unemployment insurance benefits Newfoundland receives as a have-not province.

Special U.I. benefits affect economy

Unemployment insurance benefits have become a major feature of the Newfoundland economy. In 1968, $21 million in UI money flowed into the province; eleven years later, the total had grown to a staggering $234 million.

For the individual Newfoundlander who receives UI, the benefits are obvious. The province has Canada's highest unemployment rate. Many of the jobs that do exist are seasonal. And the fishing industry is characterized by periods of intense activity followed by months without work. UI provides income to help those people bridge the gap of unemployment between paying jobs.

Program more generous

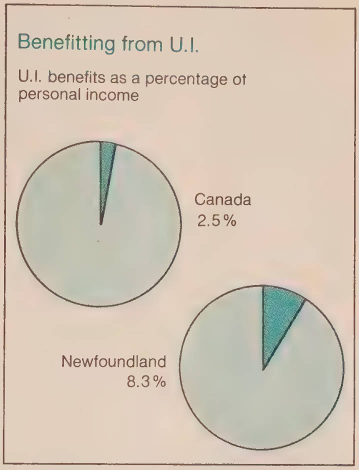
On top of ordinary benefits, Newfoundlanders have access to special benefits for fishermen, extended benefits and shorter qualifying periods because Newfoundland is a region of high unemployment. Because so many jobs in the province are seasonal, the UI program gets considerable use.

But unemployment insurance has also created a paradox. Attractive as these special UI benefits look to the individual, they have generated a number of side-effects which are harming the Newfoundland economy as a whole. The effects are indirect, almost invisible, but they are nevertheless real.

What kind of problems have these additional benefits created?

First, the special benefits of the fishing industry have probably encouraged far too many people to enter the inshore fishery where they are grossly underemployed. UI also encourages fishermen and fish plant workers to work less than a full season. Since benefits are based on recent earnings, these workers have an incentive to quit or search for ways to get laid off as soon as the glut season is over in the fishery and average weekly earnings start to decline.

Second, they have added to the reasons why people stay in rural areas or move back to them. Since inshore fishing is a rural occupation it is easier for a rural person to qualify for UI because he can create his own short-term job by fishing. In urban areas UI can be revoked if people do not take local jobs that become available. But often in rural areas there are no local employers, so it is easier to continue receiving benefits. This has slowed the normal process of urbanization in the province. UI has acted as a kind of subsidy to rural living, artificially perpetuating an urban structure which works against the creation of regular jobs and the efficient distribution of goods and services. In effect, UI is making it more difficult for the province's economy to operate efficiently, and so it is harder to create jobs that are economically viable.



Third, UI may have upset normal migration patterns. It provides an incentive for people who lose their jobs in low-unemployment areas like Alberta or Ontario to move back to high-unemployment areas like Newfoundland where they may be able to live more cheaply and can collect UI benefits longer. As a result, even more people end up chasing the few jobs Newfoundland has to offer.

Fourth, UI may have encouraged workers to accept seasonal jobs. More important, it has discouraged employers from moving away from seasonal operations to the same extent as in the rest of Canada; the effects of that on productivity, capacity utilization and costs are devastating — not merely in the seasonal industries like fishing and construction, but also in the related industries of manufacturing and transportation.

Fifth, it has accentuated income inequities between people who can obtain short-term employment and those who cannot.

Sixth, unemployment insurance has promoted the continued existence of an underground economy in rural areas where some subsistence-type jobs stay hidden so that the people who hold those jobs can at the same time receive UI benefits. (These problems are not limited to rural areas or to Newfoundland.)

Underlying all this is an even more disturbing pattern. By providing year-round income without year-round work, UI has generated a huge volume of permanent income transfers from the rest of Canada to Newfoundland. The unemployment insurance premiums paid come nowhere near covering the cost of the extended benefits and the rapidly rising volume of fishermen's benefits. Those transfers have created an equally huge volume of purchasing power which props up the province's retail and service sector. Unemployment insurance is a shaky basis on which to build permanent jobs.

UI benefits in the province amount to $408 for every Newfoundlander; the comparable figure for all Canada is $169. A scant one-fortieth of personal income in Canada comes from unemployment insurance; in Newfoundland, UI is the source of one-twelfth of personal income.

Council conclusions

The Economic Council firmly supports the basic principles of unemployment insurance. But in its study of Newfoundland, the Council concludes that there are better ways to protect the incomes of truly seasonal workers and people who simply cannot find full-time jobs. Some of the possibilities are explored in the Council's consensus report. Researchers found for example, that the amount now being spent on regionally extended benefits and fisherman's benefits in Newfoundland would pay for a generous program of income supplementation for families whose incomes from work are low because family-members are unemployed for part of each year. The Council says that in a number of ways, such a program could be more attractive than the existing arrangements. Other less generous approaches to income supplementation are also explored in the report.

Fishery offers chance to change

There is now an opportunity for many fishermen in Newfoundland to earn a better living from fishing. The opportunity was created when Canada extended its fisheries jurisdiction to 200 miles off shore almost four years ago. But the chance may be lost unless changes are made not only in the management of the fishery but also in economic and social policies. If that does not happen, increased numbers of fishermen will have to live in poverty, dependent on income support programs for much of their income.

The fishery, the way it is managed now, is unlike any other natural resource industry. It is different because it is carried out on the open sea. In spite of the recent freeze, there are so many outstanding fishing licences that virtually anyone can go fishing. And that is the nub of the fishery's unique problems.

Two hundred miles

Until the declaration of the 200-mile limit, no one could ever be charged for the fish they took from the sea because no one, not even governments, owned the fish. They were common property and the fishery faced the same kind of problems that beset cattle graziers in England hundreds of years ago. Just as the grazing of too many cattle on community pastures was ruining the pastures and reducing beef production, so was overfishing killing off fish stocks, upsetting the balance of nature and reducing catches.

Unlike the graziers, who could solve the problem by fencing the common land and restricting grazing rights to only a few people, fishermen cannot be cordoned off to specific grounds. The result is that fisheries with commercially valuable stocks and uncontrolled harvesting are almost invariably overexploited in both economic and biological terms. Without property rights, no single fisherman has any incentive to conserve the resource.

The 200-mile limit, placing most of the Newfoundland area fish stocks and fishing grounds under a single control, has made it possible to exert a unified management over the whole fishery. Overfishing can be stopped and the stocks rebuilt. Eventually it may be possible to catch more than twice the amount of fish being harvested before the fisheries jurisdiction was extended and to sustain the catch at that level on an ongoing basis.

This increase in the potential catch holds the promise of improvement in the average income of fishermen – but only if some limit is placed on the number of people fishing and the amount of fish they may catch.

Unfortunately, government policies have allowed overfishing not only by handing out licences to all comers, until the recent freeze, but also by actively encouraging people to go fishing through subsidies to acquire boats and equipment and through subsidies to people mainly through the unemployment insurance program. Special benefits to fishermen have attracted people

Fisheries and Oceans

into the inshore fishery and aggravated the natural tendency toward overfishing.

For some time now, there has been general agreement that there were too many fishermen in Newfoundland, most of them unable to earn a decent living from the fishery. But opinions have varied as to exactly how many people the fishery could support if they were to earn a reasonable income.

Since the 200-mile limit was established, and fish stocks began to recover, an ever-increasing number of people have been allowed to enter the fishery. The number of fishing licences issued increased from 15,000 in 1976, just before the extended fisheries jurisdiction came into effect, to over 32,000 in 1979. Fishermen recently have averaged better incomes than they have received from fishing for years, yet payments of fishermen's benefits through UI have also reached record levels. In the past three years, the payout of special fishermen's benefits has quadrupled and in the first five months of 1980, payments exceeded the total payout for the entire 1979 year. At the same time, the Newfoundland Fishermen's Loan Board made record loans to support the building of more fishing boats.

Apart from the question of the number of fishermen that should be allowed, there is also concern about how to allocate the amount of fish they may catch. The fishery consists of an inshore and an offshore sector, though there is no clear dividing line between them. The most commonly used definitions are based on the size of the vessel – vessels less than 70 feet in length and/or 50 tons by weight work the inshore sector.

The inshore and offshore cod fisheries are both competitive and complementary. They are competitive in that they both exploit the same food supply; and they are complementary because fishing is carried out during two reasonably distinct seasons. Effective management of the fishery involves informed decisions on how to allocate the catch between the two sectors.

The Newfoundland government's approach is set out in two documents, one called *Setting a Course* and the other a White Paper on Fisheries Development. The government leans towards developing the inshore fleet, made up of the smaller boats that operate close to shore, rather than the offshore fleet of larger boats that are often at sea for ten days at a time. This emphasis is based on the government's desire both to strengthen Newfoundland's rural economy and to keep fishermen from other provinces from taking too many fish in Newfoundland waters.

Some of these issues are discussed in more detail on the next two pages.

How the catch could be shared out

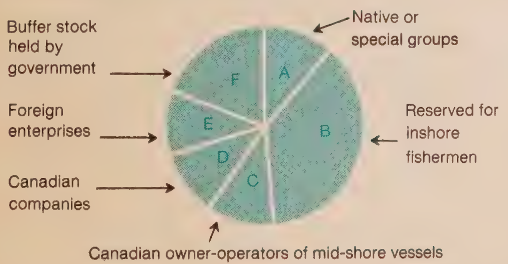
The northern cod inshore fishery in Newfoundland is one of the few remaining fisheries in Canada where there is no regulation and so, effectively, no limit to the number of commercial fishing licences issued and no controls on the amount of fish landed. The result, quite simply, is that there are too many people fishing.

It would be expensive and cumbersome to institute controls and to contend with all the bureaucracy and red tape that they would involve. A more effective way would be a system of self-regulation, where landing rights would be allocated among fishermen in an arrangement something like that operating in the Bay of Fundy herring industry.

Generally speaking, fishermen with secure fish landing rights for the season can be relied upon to use the most economical type of vessel and gear to harvest the volume of fish they are entitled to land. There would be no need to hamper their efforts by legal controls on their vessels or gear because there would be no point in their catching more fish than they have a right to sell.

Allocation of total allowable catch
of a particular fish stock

During a particular year



The system outlined below is just one possible way in which the catch of a particular fishery could be allocated to different individuals and groups. This system is not specifically recommended by the Economic Council, but is used to illustrate a wide range of flexible features that a new system could contain.

Access to Landing Rights

The total catch to be allowed would be divided into six categories. Rights to land a certain quantity of fish would be granted with each category. Additional landing rights could be bought or leased from others and landing rights could be sold to others, as specified below.

The six categories would be:

A. Native people and other special groups. Fishing rights for each family sufficient for its needs would be permanently guaranteed, regardless of any buying or selling of landing rights that may take place, among other groups. Native people could, however, buy additional landing rights in categories B, C, D or E.

B. Inshore fishing. Initially, individuals in this category would be granted some permanent landing rights. Rights may be leased annually or sold outright to another eligible person. Inshore fishermen may buy or lease additional landing rights in categories B, C, D or E.

C. Canadian owner-operators of midshore vessels. An initial grant of landing rights would be made to each existing operator. He may lease or sell his rights to another eligible person. He may buy or lease additional landing rights in categories C, D or E.

D. Canadian fishing companies. May or may not be granted permanent landing rights in this category. May lease, or sell landing rights to another eligible person or Canadian company. May buy or lease additional landing rights in categories D or E. May buy fish from anyone with a valid fishing licence and required landing rights.

E. Foreign enterprises. No permanent landing rights granted. Only able to lease landing rights in category E.

F. Government. The balance of the allowable catch forms a buffer which automatically belongs to the federal government. The government may lease or sell landing rights from this category to anyone in any of the other categories. It may also buy or lease landing rights itself from anyone in any of the other categories.

Managing the Fishery

Government management of the fishery will involve its handling of landing rights as outlined in (F) above. In addition, it has the following responsibilities and options:

Licensing

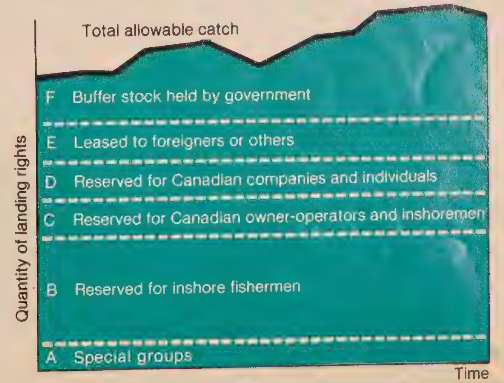
- Sell commercial fishing licences differentiated by market class A, B, C, D, E. Fee may be high or low.
- Licences may be annual, intermediate term or permanent, transferable or nontransferable within specified markets.
- Government may buy back licences in the open market, or lease them back.

Taxation

- May or may not introduce a landing tax – either a flat fee, or an ad valorem fixed percentage of the value of the landing rights.

Allocation of total allowable catch
of a particular fish stock

Over a period of time



Boats, nets and cod traps

There may be no clear answer to the question of how many people should be fishing off the coasts of Newfoundland. But the debate about the most efficient way of harvesting the fish may get some answers in a paper prepared for the Newfoundland project by three economists at Memorial University of Newfoundland.

William Schrank, Eugene Tsoa and Noel Roy, in a study of the various combinations of boats and fishing techniques used in the groundfishery to catch fish that feed on the bottom of the ocean, have come up with results that may raise a few eyebrows. Here's what they found:

• Larger vessels are generally not more economical than smaller ones. More fishermen are needed to work the small boats and small longliners, but they don't tie up as much capital. So long as the right fishing gear is used, the cost per pound of fish caught works out at about the same as for the larger vessels, even if it is assumed that the fishermen get a net income equivalent to what the average industrial worker earns in a year. The bigger longliners may have been hailed as revolutionary ten years ago, but they have turned out to be an inefficient way of modernizing the Newfoundland groundfishery.

As for the intermediate-size longliners — they are hopelessly expensive

How to order the reports on Newfoundland

The two-year study of Newfoundland to be published shortly is the first detailed analysis of a provincial economy ever undertaken by the Economic Council of Canada. The final report, *Newfoundland: From Dependency to Self-reliance* (Catalogue no. EC22-85/1980E; $10.95 in Canada, $13.15, other countries), includes Council recommendations for policy changes in key areas such as the fishery, unemployment insurance and productivity.

Studies Give More Details

Other reports providing in-depth information and analysis of specific aspects of the Newfoundland economy will be published over the coming months. Two of these reports will be available shortly.

A New Approach to Frictional Unemployment: An Application to Newfoundland and Canada, by Harry H. Postner (EC22-84/1980E, price $6.95 in Canada, $8.35 other countries).

A Promise of Abundance: Extended Fisheries Jurisdiction and the Newfoundland Economy, by Gordon R. Munro (EC22-86/1980E, price: $9.95 in Canada; $11.95, other countries).

Two more will be available at a later date:

"Forestry and Forest Industries in Newfoundland and Labrador," by John A. Gray.

"Empirical Testing on Newfoundland Data of a Theory of Regional Disparities," by Neil Swan and Paul Kovacs.

How to Order Publications

The full report on Newfoundland and the studies listed above will be available at Dicks & Co. Ltd. and Macy's Bookstore in St. John's Newfoundland and in selected bookstores across Canada. (A list is available from the Economic Council on request.) These publications can also be ordered by mail from Canadian Government Publishing Centre, Hull, Quebec, K1A 0S9. Please be sure to include a cheque or money order made payable to the Receiver General for Canada.

Available from the Economic Council

A number of background studies and working papers on the Newfoundland economy will be available in limited quantities free of charge from the Communications Division, Economic Council of Canada, P. O. Box 527, Ottawa, Ontario, K1P 5V6.

Please contact us if you would like copies of any of the following publications:

"Unanticipated Inflation and Unemployment in Canada, Ontario and Newfoundland," by W. Craig Riddell.

"The Relative Productivity and Cost-effectiveness of Various Fishing Techniques in the Newfoundland Groundfishery," by William Schrank, Eugene Tsoa and Noel Roy.

"Fisheries Management and Employment in the Newfoundland Economy," by Stephen Ferris and Charles Plourde.

"Productivity in the Retail Grocery Trades: A Newfoundland-Ontario Comparison," by Walter S. Good with a technical appendix by Jonathan Wilby.

"Job Creation Prospects in the Newfoundland Mining Industry," by Nancy D. Oleweiler and Charles H. Pye.

"Economic Theories for Small Marine Economies: An Interpretation for Newfoundland," by Lawrence W. Copithorne (forthcoming).

Other studies will gradually be made available over the next few months on such topics as labour markets, productivity in different industries, migration, economic theory, the role of government, fisheries, forestry, and the economic history of Newfoundland.

for the groundfishery, say the authors. While they do have flexibility in pursuing different kinds of fish, their operating costs in the groundfishery are disproportionately high.

• Based on the bumper catch of 1978, there is not much to choose between concentrating cod catches in the inshore or offshore sectors as far as cost-effectiveness is concerned. But this leaves out any biological considerations.

The comparison is based on an inshore option where 80 per cent of the cod would be caught by inshore fishing (as it was in 1978), and an offshore option assuming only 20 per cent of the cod would be caught inshore. Labour would cost more if the inshore sector were favoured, but that would be offset by the increased cost of gear and vessels if fishing were concentrated offshore. The argument might come down in favour of inshore fishing because it would increase employment and maintain the independence of Newfoundland fishermen, but the cost of maintaining harbour facilities and small seasonal fish plants to process the fish they would catch might outweigh these considerations.

More emphasis on the inshore fishery instead of offshore operations is not likely to solve Newfoundland's unemployment problems. Although concentrating on inshore operations would provide a lot more jobs for fishermen, they would only work a short season. There would be only a modest increase in person-years with this option. The three economists say that it is virtually impossible, "without enormous economic losses," for the fish harvesting sector of the Newfoundland economy to solve the unemployment problem of the province. And that would hold true even if everyone went out fishing in a small boat with a hand line.

• The kind of conclusions on fishing techniques favored by the authors of the Newfoundland government's study *Setting a Course* don't find much support from these economists. Cod traps may be highly productive, they say, but they can only be used during the peak season, and the fish they catch are low-quality. Besides which, their higher cost just about balances their higher productivity. The authors also say that gillnets are not cost-effective.

"The Relative Productivity and Cost-Effectiveness of Various Fishing Techniques in the Newfoundland Groundfishery," by William Schrank, Eugene Tsoa and Noel Roy.

Newfoundland

From bays to peninsulas

Newfoundland's experience with urbanization has not been happy. Economic theory says that larger markets – usually thought of solely in terms of cities – allow greater specialization, and wider job opportunities, higher incomes, higher productivity, lower costs of production and distribution and more opportunities for spontaneous economic growth.

In the past, economists and policy-makers have viewed Newfoundland's outports, the 700 tiny communities that dot 6,000 miles of coastline, as major impediments to economic development. That view produced the notorious Resettlement Program, which between 1953 and 1975 closed down more than 200 remote communities and relocated 28,000 persons. In its early stages, the program worked fairly well; people who wanted to move were given help. But when the provincial and federal governments began encouraging more people to move, many against their will, the program foundered. The bitterness of its legacy remains undimmed.

But are the outports – which the provincial government wants to retain – really as much of an obstacle to economic growth as many people assume? Newfoundlanders who have grown sceptical of economists' solutions may be surprised that the Economic Council's says they are not.

The province is already undergoing a unique kind of urbanization. For most of Newfoundland's history, people got around by water. Sailing ships and then steamers connected the scores of outports to each other, to the capital in St. John's and to the outside world. The main geographic unit of social and economic interaction was the bay.

The building of the Trans-Canada Highway, completed in 1965, changed all that. On each of the peninsulas separating the bays, smaller road networks were built which connected the outports to the main highway. Today, people get around by those roads: they use them to go shopping, to send their kids to school, to travel into St. John's and to send out their fish on trucks. The governing socio-economic unit is no longer the bay, it is the peninsula.

Newfoundland may not be intensely urbanized, but it does have an urban system – a series of about 13 small and medium-sized urban centres stretched out along or well connected to the Trans-Canada Highway. Each urban centre is linked to St. John's by the highway and to nearby outports on the peninsulas by the smaller roads. These urban centres have schools, hospitals, shopping facilities and the other amenities we usually associate with cities.

The evidence of the Council's studies is that the benefits of urbanization flow more from the clustering of economic activity than from the clustering of people. As long as Newfoundlanders are willing to commute and as long as they have a good road system, they can enjoy many of the advantages of urban life while living in smaller communities. In a word, they can eat their cake and have it too.

This urban system, which contains 75 per cent of Newfoundland's people, is not perfect; and the Council has made recommendations to strengthen it. But the fundamental lesson of its research is that the road system, by transforming Newfoundland from a series of water-connected bays to a series of road-connected peninsulas, has given the province an urban structure which is not a major barrier to growth.

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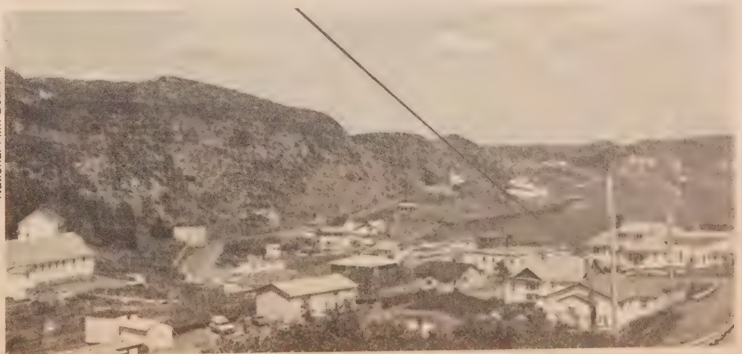


Regional disparities

Still with us after all these years

Regional disparities have been around a long time — almost as long as Canada itself. Just one hundred years ago this year, the contract was signed for the building of the Canadian Pacific Railway. Development of a transcontinental railway system held out great prospects for linking the regions of Canada, opening up the west and providing markets there for eastern Canadian industry.

Canadian Pacific

About the same time, came the beginning of what economists nowadays would call a development strategy. Then, as now, there was plenty of opposition and argument about it, but just the same, the idea of planning for regional development gained political acceptance. The elements of the strategy have a familiar ring — import tariffs, industrial policy, immigration and labour markets are all still key issues in any discussion of regional problems. So they were one hundred years ago, too.

An import tariff to protect Canadian manufacturing industry was expected to help shape Canada's economy as well as to determine its role in the world. The industries supported by the tariff would be located mainly in Ontario and Quebec, so the railway would provide a vital link in opening up the west and making it possible to develop a national market for those industries.

The importance of regional disparities in the development of economic policy was given official recognition when the Economic Council was established in 1963. Its mandate, laid out in the Economic Council Act, included the exhortation "to study how national economic policies can best foster the balanced economic development of all areas of Canada."

Right from the beginning, then, the Council has had a particular concern with the study of regional disparities, culminating in the publication of a major report, *Living Together*, which was released in April 1977. The study of Newfoundland came about as a direct result of this report (see page 3). But the Newfoundland report is only the most recent example of the Council's focus on this important policy issue.

Part of this issue of *Au Courant* is given over to some of the Council's previous work in the area. Current research on regional problems may be mentioned when it is relevant, but the intention of the next few pages is more to give an overall perspective on the subject of regional disparities and the Economic Council's involvement in it. Tariff and trade policy are featured, as well as stories highlighting the Council's work on regional productivity differences and how abundance of natural resources may or may not affect regional income disparities.

Regional questions have not lost their importance over the past hundred years since the CPR contract was signed. And discussion of policies to deal with regional disparities still contains many of the same ingredients as it did when Canada was just starting out.

Don't blame it on natural resources

Are Canada's regional disparities caused by natural resources – or the lack of them? The history of economic development in this country shows clearly that exploitation of resources like the Atlantic fishing grounds, or forests in Quebec, or farmland on the Prairies provided a major stimulus to regional economic activity in each case. Based on these experiences some people have been led to the conclusion that the main reason for disparities in incomes and unemployment may be the fact that regions have different endowments of natural resources in relation to their population. And if this is so, it follows that the best way to solve these disparities would be to encourage people to move from resource-poor areas to resource-rich regions.

The publication of *Living Together* broke with this conventional wisdom on regional disparities. The report, instead, points to three main reasons for the economic differences between regions: productivity, the total demand for goods and services, and the urban structure of a region. But to test out the natural resource hypothesis, a research study was undertaken as part of that project. Published after the main report came out, the study comes to the conclusion that "prior to the world oil crisis, natural resources were not the major cause of regional disparities in incomes and unemployment."

The study, by Lawrence Copithorne, did find some exceptions however. For example, although forests have helped establish British Columbia as one of the highest wage areas in Canada, this in turn has helped discourage manufacturing outside the wood products sector. This may explain some of the high unemployment. The author argues that these problems can be partially overcome by changes in the way the forest resource is allocated and priced.

Natural Resources and Regional Disparities, by Lawrence Copithorne (EC22-68/1979; $5.75 in Canada, $6.90 other countries).

Productivity variations: do B.C. cows try harder?

Productivity is the key to prosperity. The idea has long been familiar to economists, but how does it apply to Canada? Provinces like British Columbia and Ontario, have out-performed the rest of the country in terms of income per capita. The Atlantic region has traditionally lagged behind. Is it because the more prosperous regions have had more than their share of high-productivity industry? The explanation does not seem to be quite as simple as that.

Council research over the past few years has pinned down some of the reasons for productivity differences between regions. It's true that the structure of industry has held down productivity in provinces like Saskatchewan and Prince Edward Island, and that industrial structure has had an adverse effect on the manufacturing sector in Quebec and Manitoba. But only 20 per cent of all the variations in productivity can be accounted for in this way. These influences are minor compared with the differences in productivity within the same industry across the country.

A dairy cow in British Columbia produces about 12,000 pounds of milk a year. A cow in Ontario yields 9,000 pounds, but a Quebec cow gives only about 7,000 pounds of milk in a year. Soft drink bottlers in Ontario ship an average 50,000 gallons of their product for each worker-year, Nova Scotia producers turn out 30,000 gallons for each worker-year.

These startling facts came to light in a study of regional disparities of productivity and growth by Council economist Ludwig Auer, published in 1979. He found, too, that regional offices processing federal family allowances and old age pension cheques get through more work in one part of the country than in another.

It would be wrong to assume that productivity differences of this sort come mostly from harder work. After all, if cows in British Columbia give 5,000 pounds more milk than cows in Quebec, it is because of dairy management and many other factors and not because B.C. cows try harder.

Looking at the amounts of capital stock, like factories, machinery and equipment, in relation to the number of workers does not give such a clear message. High productivity provinces like Alberta and British Columbia, have above average capital stock per worker, but so do three of the four Atlantic provinces where productivity is low.

Harder to measure are other influences such as the size of firms, the speed with which new technology is adopted, and the quality of management.

Take the adoption of new technology. The installation of computers proceeded much faster in Ontario than it did elsewhere and firms in the Atlantic region were slow to adopt this technology. As of 1973, the number of computers related to the number of workers was 22 per cent above the Canadian average in Ontario, and that was after excluding the computers used by the federal government in Ottawa. The Prairie region came in at 7 per cent below the Canadian average, Quebec was 14 per cent below, British Columbia was 16 per cent below, and the Atlantic provinces were 25 per cent below the Canadian average.

The quality of management is not something that lends itself to easy measurement. But judging by the educational level of executives, Alberta comes off very well. A 1970 survey of general managers in five major occupational categories found that only 18 per cent of managers in Newfoundland had university degrees, while 32 per cent of managers in Ontario and Quebec were university graduates and 37 per cent of managers in Alberta were university educated.

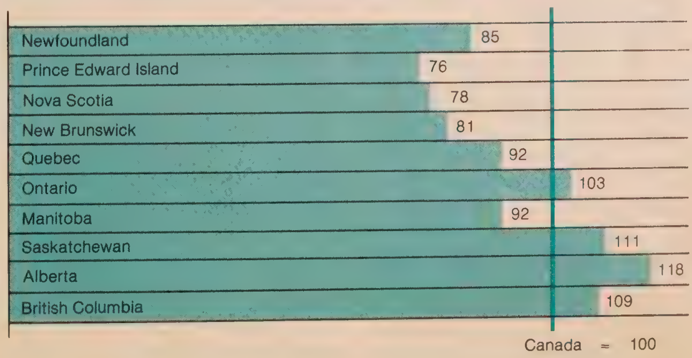
Over the past thirty years, increases in output per worker have not been as marked in Ontario and Quebec as they have elsewhere in Canada. But nationwide, about 40 per cent of the improvement can be directly associated with the investment of more capital per worker, more intensive use of machinery and equipment, and improved education, skills and experience of the workers themselves. The rest of the improvement presumably can be attributed to other causes such as improved standards of management, and better application of technology.

The findings referred to above are contained in two research studies prepared for the Economic Council:

Regional Disparities of Productivity and Growth, by Ludwig Auer. (EC22-62/1978; $4.25 in Canada, $5.10 other countries.)

The Interregional Diffusion of Innovations in Canada, by Fernand Martin, Neil Swan, Irene Banks, Gordon Barker and Richard Beaudry. (EC22-64/1979; $4.50 in Canada, $5.40 other countries.)

Output per worker:
how provinces compare with the national average, 1970-73



Tariff protection for manufacturing: how the regions are affected

Protecting manufacturers from import competition is not without its cost. But those who argue in favour of tariffs and other barriers to trade, like quotas, would say that the cost is worth it because it protects jobs for Canadians and helps Canadian industry to develop.

The problem is that manufacturing industries that get this kind of protection tend to be located in central Canada and the cost of providing the protection is borne by all Canadians. Regions that are giving rather than receiving tend to resent this. The Western and Atlantic provinces have never ceased to resent the price they must pay for the tariff and to suggest that its benefits go almost entirely to Ontario and Quebec. Trade protection has thus become a thorny subject whenever regional disparities are being discussed.

Cost of protection

What exactly is the cost of providing protection to manufacturing industries? Who pays and who benefits? And how would the costs and the benefits be distributed with freer trade?

The Economic Council's report on a new trade strategy for Canada, *Looking Outward*, said that the Canadian tariff is really a tax that all Canadians pay when they buy duty-paid imported goods, or Canadian-produced goods that are protected to keep their prices above world market levels. On imported goods, the tax goes to the federal government. On domestically-produced goods, the tax is hidden in their price and it goes to the producers.

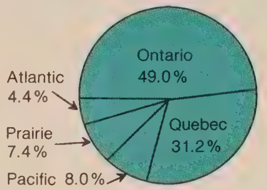
Canadian consumers pay the price of protectionism. But the costs may not be evenly spread. When buyers and producers are in different regions of the country, the payment between them involves a transfer of money from one region to another.

Most of the protected manufacturers are located in southern Ontario and Quebec, so these provinces get a much larger share of the transfers to producers than other areas of the country. A study prepared for the Council by Hugh Pinchin, on the regional impact of the Canadian tariff, found that the amounts received by producers in the urban areas of central Canada exceeds the direct cash costs that all consumers have to pay as a result of tariff protection. Other regions are making up the difference.

As of 1970, about 45 per cent of workers in manufacturing were producing goods protected by nominal import duties of over ten per cent. In other words, imported products that competed with this made-in-Canada output were subject to duties of more than ten per cent. Almost a half of those protected jobs were in Ontario, 37 per cent were in Quebec, and only 14 per cent in all the other provinces together (see chart).

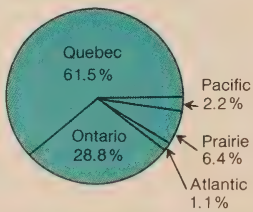
Manufacturing jobs protected by tariffs

Percentage share of each region, 1970



In 1970, 1.6 million Canadians were employed in manufacturing industries receiving tariff protection.

Including only those industries where tariffs are higher than 20 per cent, the regional share of protected jobs looks like this:



But for imported goods subject to a duty of more than 20 per cent, workers producing the Canadian equivalent were employed mainly in Quebec. The full weight of quotas and other methods for limiting foreign competition is directed toward industries like textiles, clothing and shoes, which tend to be concentrated more in that province than in the rest of Canada.

There are other costs associated with tariff protection. By reducing imports, the Canadian tariff tends to raise the exchange value of the Canadian dollar and that may reduce the profitability of resource industries in regions outside central Canada. On the basis of this, it could be argued that the Atlantic and Western provinces are worse off because of tariffs. Certainly these regions feel that they have paid continuously for the industrialization of central Canada. With the growing economic power of the Western provinces, said the Council in 1975, "one can expect to see increasingly difficult federal-provincial discussions of the regional sharing of industrial development."

But Council studies of the subject have led to the conclusion that if both Canadian and foreign trade barriers were removed, there would be substantial gains for all provinces, and particularly Ontario and Quebec. The question of how regions might adapt to freer trade is discussed on the next page.

More information

Publications relevant to the discussion of tariffs are listed below:

Looking Outward: A Trade Strategy for Canada, a consensus report of the Economic Council. (EC22-27/ 1975, $6.50 in Canada, $7.80 in other countries.)

The Regional Impact of the Canadian Tariff, by Hugh McA. Pinchin. (EC22-65/ 1979, $4.50 in Canada, $5.40 in other countries.)

"The Economic Costs and Benefits of the Canadian Federal Customs Union," by Tim Hazeldine in *Proceedings of the Workshop on the Political Economy of Confederation*. ($6.50 in Canada, $7.80 in other countries.)

"Western Economic Grievances," by Kenneth H. Norrie in *Proceedings* (see above).

Making the adjustment to free trade

It would be a mistake to blame the tariff for all the transfers of money between regions or for the pattern of regional development. Its effects have been at least partly offset by other measures giving advantages to non-manufacturing industries. Special tax status for the mining industry, transport subsidies and a variety of supports for agriculture and fishing are all examples of this.

To some extent, these policies may have been justified and applied in the past as compensation for the protection of manufacturing, so some of them might have been less necessary and perhaps even unacceptable in the absence of the tariff.

The Economic Council went on record in 1975 as supporting totally free trade. It has to be seen as the best answer to Canada's industrial concerns, said the Council in *Looking Outward*. But how would the benefits of free trade be distributed through the regions?

Removal of trade barriers would result not only in the elimination of the inter-regional transfers, but it would also lead to a reorganization of Canadian industry. Greater specialization would be encouraged and there would be higher levels of productivity from which all Canadians would benefit.

The greatest scope for reorganization would come from removal of both Canadian and foreign trade barriers through multilateral or regional trade liberalization. Once industry has had time to reorganize, the real income of Canadians would rise, but not all regions would share equally in the increase.

The most obvious effect of removing the Canadian tariff would be to reduce the prices all consumers pay for internationally traded goods. It would also involve net gains for producers – even more so if foreign tariffs were also removed. But the prospective gains could differ substantially among the various regions because industry is not evenly distributed across the country.

In the long run, Quebec and Ontario would stand to gain more than the Atlantic provinces and the West from the elimination of Canadian and foreign trade barriers. But the cost of adjustment would be greater in Quebec than elsewhere. The Atlantic and

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Western regions are more dependent on primary industries, so they could expect to expand these industries without having to go through a re-organization process. Secondary industry could then develop because it would have better access to neighbouring foreign markets, particularly in the United States. The need for re-organization would be confined to a small group of industries such as manufacturers of clothing in Manitoba and textiles in Nova Scotia.

Free trade would mean quite a lot of industrial re-organization in Ontario because of the concentration of manufacturing there. But Ontario industry is already more export-oriented than industry in Quebec and the province is less dependent on highly protected industries competing with low-cost imports. Removal of trade barriers, especially those between Canada and the United States, should result in greater specialization within manufacturing, presenting opportunities for much greater gains in the long term.

Quebec's different industrial structure would determine how it would be affected by free trade. The province has a strong resource base which could provide good opportunities for the development of industries for further processing. And there are already a number of manufacturing industries in the province, such as transportation equipment, some paper products and chemicals, whose profitability would improve considerably if they had access to large nearby markets.

But much of this country's output of textiles, shoes and other labour-intensive manufactures is located in Quebec. Under a bilateral free-trade agreement with the United States, these industries could compete fairly well with manufacturers from the southern U.S. A multilateral free-trade agreement, obliging them to compete with low-wage third world countries would confront them with quite serious adjustment problems. But competition from these countries is increasing in any case. The real question is whether adjustment will be carried out in a planned, orderly manner, or through a series of ad hoc responses to what may be seen as a worldwide trend.

The most vulnerable industries in this scenario would be textiles and clothing. The Council has pointed out that much of this production is centred in small communities like some of those in the Eastern Townships of Quebec where many of the workers are unskilled and lack mobility, but it recommended that these difficulties should be dealt with by other measures such as improving and expanding retraining and relocation programs and offering early retirement benefits if necessary.

More detailed discussion of these concerns will be found in the Council's consensus report *Looking Outward* as well as in the following publications:

For A Common Future: A Study of Canada's Relations with the Developing Countries, a consensus report of the Economic Council. (EC 22-5/1978; $4.75 in Canada, $5.70 in other countries.)

"Canadian Industry and the Challenge of Low-cost Imports" by Roy Matthews, Discussion Paper No. 172.

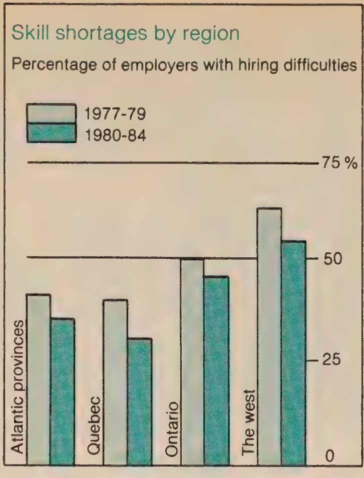
"Go west" still good advice

Shortages of skilled workers have become a serious problem for Canadian industry. The situation is not likely to improve over the next few years – particularly as immigration no longer provides a ready source of supply for employers. The problem is acute in western Canada. In Alberta, more than three-quarters of employers report hiring difficulties over the past few years and 68 per cent expect to face the same kind of problems in the years ahead.

Council researcher, Gordon Betcherman, who has just completed a survey of 1,400 Canadian employers reports that the kind of skills that will be in short supply for the next five years are very similar to those that employers experienced from 1977 to 1979. Specialized blue-collar workers in product fabricating and repair and machining occupations will be in demand and so will engineers and people whose jobs relate to engineering. But these kinds of skills are in short supply right across Canada so employers will not be able to solve the problem by trying to attract workers from some other region of the country.

Betcherman's survey of human resources found that the kind of training that industry is doing at the moment does not focus on the development of high level skills. Many of the training programs now under way are short-term programs. Only 19 per cent of all the firms surveyed reported training programs lasting a year or more. Thirty-eight per cent of all training programs reported in the survey were for periods of four weeks or less. Skilled blue-collar occupations in product fabricating and repair and machining do have much longer training periods than white-collar groups. Long-term training programs are most prevalent in mining where 38 per cent of all establishments reported programs of a year or more.

The bigger the organization, the more likely it is to have a training program. European countries, which in the past have been a major source of skilled workers for Canadian employers, have put great emphasis on apprenticeship schemes, but this method of skill-training has not proved too popular in Canada. Only 15 per cent of the total training effort of employers in the survey was devoted to apprenticeships.



Interestingly enough, the survey found that most training in industry is carried out without any financial help from public sources. Only one out of every five programs received any government assistance, and most of that aid went to manufacturing.

How do companies solve their skill shortage problems? Employers in British Columbia and Alberta tend to look elsewhere for workers. But only one out of every ten employers in the survey looks outside Canada for skilled workers nowadays. Most said they try vocational training, but in the meantime, many make the workers they have work overtime.

Often the response to the problem depends on the type of skill the employer needs. While training programs are generally used to deal with shortages of workers in product fabricating and repair and machining, for engineering and science personnel, employers tend to look outside their region. And not surprisingly, the bigger employers are in a better position to solve their shortage problems. They pay more overtime, they sub-contract more, and they are able to look farther afield for workers they need.

It was usually only the smaller employers who said they had to cut back on production or lower the job qualifications when they could not get the kind of workers they were looking for.

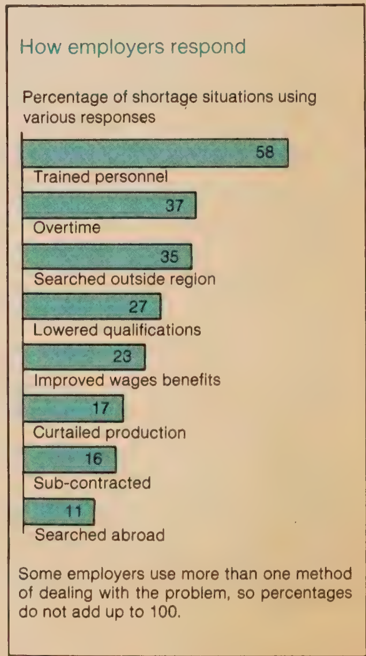
Where will skilled workers be needed most over the next five years? Betcherman says that mining and manufacturing industries are likely to have the most difficulty in recruiting. Shortages are most critical in oil and gas and in metal mining operations. In manufacturing, the survey showed the biggest hiring problems for companies making machinery, rubber and plastic goods, and lumber and wood products.

But skill shortages vary according to region too. The problem is worst in the west, reflecting the high rate of economic growth there, says Betcherman. Sixty-two per cent of establishments surveyed in that region had had problems in the past three years and 55 per cent expect there will be difficulties for at least the next five years.

Employers in Quebec and the Atlantic provinces are least affected by hiring difficulties, while Ontario fits in between at about the national average.

The information for the Human Resources Survey was collected from industrial establishments, so the focus was on operations at a single physical location. All industries, except for public administration and agriculture were included.

Skills and Shortages: A Summary Guide to the Findings of the Human Resources Survey, by Gordon Betcherman. Economic Council of Canada,(Catalogue No. EC22-87/1980E; $2.00 and Canada, $2.40 other countries).



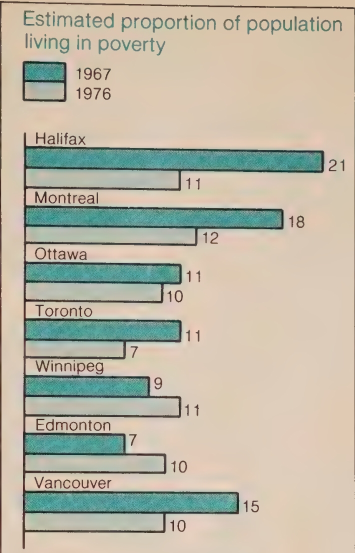
Some employers use more than one method of dealing with the problem, so percentages do not add up to 100.

The poor fare better in some cities

Is Canada managing to stamp out poverty? It all depends on what you mean by poverty. According to the definition of two Economic Council economists, poverty has been reduced in some Canadian cities. Ludwig Auer and Kathryn McMullen say that while 13 per cent of Canadians living in metropolitan areas were poor in 1967, that percentage had dropped to 10 per cent by 1976.

Their definition of poverty is having to spend 70 per cent of family income on the necessities of life – food, clothing and shelter. Other definitions bring different results. Poverty lines that assume families are poor if they are living on less than half the median income of all families indicate that poverty has increased in Canada over the years.

Auer and McMullen say that it is striking that poverty in Montreal was more extensive than in Toronto during the period studied. They say this may be partly because the income distribution in Ontario was more favourable for the poor than in Quebec and partly because low-income families in Toronto were able to manage better on the same income than low-income families in Montreal. Of course, some regional variations in poverty may be statistical errors resulting from small sample size.



Poverty is defined as having to spend 70 per cent of family income on food, clothing and shelter.

Over the years, the incidence of poverty was reduced substantially in Halifax, Montreal and Vancouver, but there was hardly any change in Ottawa, Winnipeg and Edmonton. By 1976, none of the cities had more than 12 per cent of its population living in poverty and the percentage of poor people was lowest in Toronto at 7 per cent of the population.

Estimates of poverty that are based on what percentage of the budget is spent on necessities vary from city to city. This means that a guaranteed annual income policy would not meet the needs of low-income families equally well among the regions, say the authors. More objective methods of estimating poverty are needed. They suggest the possibility of relating a poverty line to some measure of how family spending patterns and household amenities change over time.

But while circumstances may have improved for many Canadian low-income families, poverty remained a problem for people living on their own in every city. On average, one out of three of the latter group continue to live below the poverty line used in the Auer-McMullen study, despite a significant increase in government income support over the years.

"Changes in Poverty in Canadian Metropolitan Centres 1967-1975", by Ludwig Auer and Kathryn McMullen. Economic Council of Canada Discussion Paper No. 164.

Why do workers quit?

If workers are leaving their jobs to look for better opportunities elsewhere, it may be because they are unhappy with the working conditions at a particular company. Economists who have studied employee turnover in the past have concentrated on how wages or general economic conditions affect a worker's decision to leave a job voluntarily. But three economists on the staff of the Economic Council say that the organization and the general situation of the firm itself may be just as important in explaining why workers quit.

Based on a special survey of Ontario industrial establishments, Norman Leckie, Gordon Betcherman and Keith Newton have analysed employee turnover on a firm-by-firm basis. They found:

- Workers are less likely to leave firms that are financially successful. Figuring out why this is so is something of a "chicken and egg" problem. It may be because only companies that are doing well can afford the luxury of more enlightened personnel practices. But then again, it could be that better personnel management means the organization runs more smoothly and the workers are more productive so the company does better financially.

- Firms that have been in operation for five years or less have more trouble keeping employees than more established companies. The Council economists speculate that these employers have less experience in personnel management, or perhaps they are too busy concentrating on getting established to spend time improving their personnel practices.

The study confirms the findings of other economists that workers are less likely to leave employers who offer better-than-average pay with regular pay increases and a shorter-than-average work-week. It also agrees with earlier studies showing that employees will quit in greater numbers as job opportunities elsewhere increase.

The three economists say that future research should pay more attention to personal job satisfaction. As well as looking at the standard items such as wages, hours and fringe benefits, it would be useful to know something about the conditions in the organization – heat, light, ventilation, noise, potential hazards, accessibility of workmates and so on.

They also suggest more analysis of the structure of the organization is needed, including the use of technology and the degree of specialization. And they would like to see a more detailed study of personnel policies of Canadian firms.

An Analysis of Turnover in Ontario Industrial Establishments, by Norman Leckie, Gordon Betcherman and Keith Newton. Economic Council of Canada. (Catalogue No. EC22-77/1980E; $2.50 in Canada, $3.00 other countries.)

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Economic Council of Canada

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Au Courant is a magazine published periodically by the Economic Council of Canada. The objective is to present to the interested citizen brief, non-technical summaries of the Council's various publications, as well as reports on its current program of research and analysis of Canadian economic issues.

The magazine contains reports on publications representing the views of the Council itself, and on research monographs and papers prepared for the use of the Council by members of its staff and by others. In the latter cases, the views and conclusions are, of course, those of the authors; neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

Au Courant is published under the authority of the Chairman of the Economic Council of Canada, who bears final responsibility for the publication of the magazine under the imprint of the Council.

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Economic Council of Canada

Volume 1, No. 3 Winter 1981

Can we solve the productivity puzzle?

- New projections for economy
- Energy investment
- Regulation by Cabinet
- Government aid to business

Publications of the Economic Council of Canada

Over the past few months, two major reports have been published by the Economic Council reflecting the consensus viewpoint of the Council and making policy recommendations. These consensus reports, listed below, are published in both official languages.

Seventeenth Annual Review, *A Climate of Uncertainty* (EC21-1/1980; $8.75 in Canada, $10.50, other countries)

Newfoundland: From Dependency to Self-Reliance, (EC22-1980E; $10.95 in Canada, $13.15, other countries)

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council as a whole.

The following research studies have been published since the last issue of *Au Courant*.

Towards a Better Understanding of the Consumer Price Index, by M. C. McCracken and E. Ruddick (EC22-88/1980E, $3.50 in Canada, $4.20 other countries)

A Promise of Abundance: Extended Fisheries Jurisdiction and the Newfoundland Economy, by Gordon R. Munro (EC22-86/1980E, $9.95 in Canada, $11.95 other countries)

A New Approach to Frictional Unemployment - An Application to Newfoundland and Canada, by Harry H. Postner (EC22-84/1980E, $6.95 in Canada - $8.35 other countries)

Redistributive Effects of Canada's Public Pension Programs, by S. A. Rea (EC22-89/1980E, $4.25 in Canada $5.10 other countries)

Language and Earnings in Montreal, by J.-A. Boulet, EC22-90/1980E, $9.95 in Canada, $11.95 other countries)

Both consensus reports and research studies listed above are available across Canada from bookstores where Government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from Canadian Government Publishing Centre, Hull, P.Q., K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Other publications

A number of working papers and Technical Reports have been issued in connection with the Council's study of Regulation. A complete list of these publications will be found on page 14.

These reports and the discussion papers listed below are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario K1P 5V6.

Discussion Papers

Discussion Papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they were written, and are available without charge. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the paper has been endorsed by the Council.

No. 173 "Fisheries Management and Employment in the Newfoundland Economy," by Stephen Ferris and Charles Plourde

No. 174 "The Effects of the Growth of Private and Public Pension Plans on Saving and Investment in Canada," by Peter Wrage

No. 175 "Price Formation in an Open Economy and the Relative Efficiency of Fiscal and Monetary Stabilization Policies: The Case of Canada," by Bimal K. Lodh

No. 176 "Preliminary Report: Innovation and Technological Change in Five Canadian Industries," by Dennis P. DeMelto, Kathryn E. McMullen and Russel M. Wills

No. 177 "Quelques aspects économiques de la migration interne : le cas de Terre-Neuve," par Denis Gauthier (see D.P. 178 for translated version)

No. 178 "Some Economic Aspects of Internal Migration: Newfoundland's Case," by Denis Gauthier

No. 179 "Job Creation Prospects in the Newfoundland Mining Industry," by Nancy D. Olewiler and Charles H. Pye

No. 180 "The Relative Productivity and Cost-Effectiveness of Various Fishing Techniques in the Newfoundland Groundfishery," by William E. Schrank, Eugene Tsoa and Noel Roy

No. 181 "Employment, Investment, and Consumption in the Canadian Provinces," by Tim Hazledine, Baxter MacDonald and Sandy Moroz

No. 182 "Unanticipated Inflation & Unemployment in Canada, Ontario & Newfoundland," by W. Craig Riddell

No. 183 "Productivity in the Retail Grocery Trade: A Newfoundland - Ontario Comparison" by Walter S. Good.

No. 184 "Inflation and Unemployment in Canada and Other Industrial Countries," by A. R. Braun.

No. 185 "An Assessment of the Impact of the Federal Budget on the Canadian Economy," by B. L. Eyford, B. Cain, H. M. Saiyed and R. S. Preston.

No. 186 "Seasonal Unemployment in Newfoundland: Trends and Determinants," by J. F. Wilson

The Economic Council of Canada is an independent advisory body established by Parliament in 1963 with broad terms of reference to study and report on a wide range of matters relating to economic development. The act requires the Council to make an annual review of the country's economic problems and prospects, and empowers it to conduct other studies on its own initiative or at the request of the Government, and to publish reports as it sees fit.

David Slater on the Economic Council

David Slater was appointed Chairman of the Economic Council in September, 1980. A former Dean of Graduate Studies at Queen's University, and President of York University, he joined the Department of Finance in 1973 as Director of Fiscal Policy and Economic Analysis. In 1978 he was appointed Director of the Economic Council. Dr. Slater has a long-standing interest in public affairs, and has served as Director of the Bank of Canada, Member of the Canada Council and Member of the Advisory Committee on University Affairs of the Government of Ontario.

The Chairman discusses his views in the following interview for Au Courant:

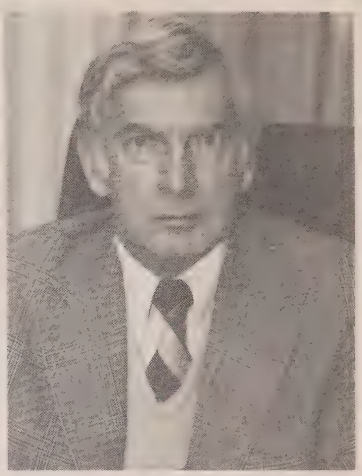
Au Courant: *What do you believe have been the most significant achievements of the Council since it was founded some 17 years ago?*

Slater: Probably the most significant contributions in my mind are still those of the 1960s when the Council was the first body of its kind that was looking ahead at Canadian economic prospects, problems, possibilities and so on. Before that we had ad hoc approaches to public consideration of economic problems - Royal Commissions and so forth - but no one was looking ahead into the medium and long-run on a continuous and comprehensive basis.

Out of the Council's early work came the realization that certain things would need to be done if Canada's potential was to be realized. The value of massive support for education generally, but post-secondary education in particular, was recognized. The idea came up for dividing what was then the Department of Labour and creating a separate department of Manpower and Immigration, with a much more active government-supported program of manpower training. Also the systematic concern over regional economic development and economic disparity contributed to the creation of the Department of Regional Economic Expansion. The Economic Council played a part in all these crucial areas.

The Council did good work in the 1970s too, but nothing quite so uniquely to its credit as what it had done in the 1960s.

Au Courant: *How do you see the Council, at this stage in its development, fitting into the process whereby policies affecting the economy are determined?*



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David W. Slater

Slater: The role that the Council plays now is an evolution of the role it played in the 1960s. While there are many more economists now and organizations concerned with economic affairs, there still are very few who are working in the medium and long-term end of the spectrum of public policy. There has been disenchantment with what can be done in the short term to deal with

continued on next page

In this issue. . .

economic problems and attention has therefore been directed more to seeking medium and long-term solutions. That means that if the Council does good work on medium and long-term analysis, setting out of options, weighing of policy alternatives and pointing to things that look promising, it can have quite a lot of influence.

I don't think the Council could or should try to be the last word on any issue, but it should and can be an effective participant in sizing up the problems and the policies that may offer the best solutions.

Au Courant: *This is the start of your term as Chairman. What kind of an organization would you like to shape and see evolve over the next several years?*

Slater: I would approach that question from the point of view of the accomplishments that can occur over the next four or five years.

I think it's too grandiose a notion to talk about the Council producing *the* economic plan, but it is not at all too ambitious to imagine the Council being able to reach an understanding of the possibilities of the Canadian economy and of the forces, choices, policy strategies that may permit us to fulfill those opportunities.

The Council could provide a framework within which particular issues that need to be resolved can be examined in a broader context.

In the last Annual Review for the first time in recent years, we worked to a ten-year framework rather than one of five years, not to forecast for ten years, but rather to have a larger time span that would allow us to measure not only the period of investment, development and change but also the period of pay-off that these produce.

Au Courant: *In entering upon this course do you discern in advance a political will to do long-range planning or do you see yourself as a proselytizer for this approach?*

Slater: I see growing interest and even application of at least a medium-term analysis. The Department of Finance and the government have not backed off from presenting medium-term perspectives which they began a few years ago. The public as well as provincial and federal officials are increasingly coming to the view that immediate fine tuning of the economy isn't an effective way to proceed. Monetary policy, for example, is already on a medium-term orientation.

But it takes a lot of nerve to hold to such an approach. However, I'm hopeful on that.

Au Courant: *What role do you see for the Council in responding to more immediate issues, issues of public concern, such as interest rates, inflation and unemployment? Will the Council withdraw from dealing with such issues in favour of longer term analysis?*

Slater: No matter how good our medium and long-term work is, it won't really be trusted if we do not present some believable path from where the Canadian economy is now, into the medium and long-term future.

The Council therefore has to have a view on shorter term problems; it has to have a credible explanation about why and how some of these immediate issues will not remain part of the permanent landscape of the economy. We will need to be able to provide a notion of how long and severe the short-term distortions are likely to be; otherwise people will have no belief or confidence in what we have to say about the future choices and paths.

Au Courant: *The Newfoundland study was the Council's first analysis of a single provincial economy. What did the Council learn from the exercise?*

Slater: There is a question in my mind as to whether the Council should be studying the economy of a single province rather than studying a set of problems which are to some degree shared by several provinces. If you're going to do your job well in this type of study you will inevitably get into commenting on areas that are at the centre of provincial responsibility. And it is very hard for an institution that is federally funded, even if the provincial government contributes some resources as was the case in Newfoundland, to deal with issues in the kind of detail required without seeming to be too nosy about provincial problems. This is so, even when a province invites you to do a study.

If we study an issue that is of interest to several provinces we operate on a more general level and aren't then as likely to come up against the particular policy concerns of any one province. I suspect the Council is better suited to that then it is to studying individual provinces.

Au Courant: *Is that what the Council will be concentrating on in the future, for example, in its regional studies?*

Slater: There's certainly a leaning that way. Another thing we learned in the Newfoundland study is something we would want to bring to bear on any study of problems common to a number of provinces, namely that there is enormous value in trying to really understand the history, social background, economic geography, institutional development and so on of a province or region.

One of the things that was a great strength of the Newfoundland study was the extent to which we came to understand the province's history, geography and people. We immersed ourselves in the province. I've long been a believer in economic history, entrepreneurial history and so on. They have not been all that fashionable among economists but we learned that a grasp of these elements, as well as of the technical economics of the province, greatly enriched our knowledge.

Au Courant: *The next major public effort of the Council will be the publication of the final report of the Regulation Reference. What do you see as its purpose and possible effects?*

Slater: That's a very big issue. The final report is going to be primarily on the substance of regulation in various areas rather than on the process.

The central purpose of the report is first of all to try to discern the principal elements of strategy relating to regulation and deregulation in different parts of the economy in different kinds of situations; there is no uniform approach that applies in every case. Another purpose will be to mark out certain areas in which it appears possible to have a substantial measure of regulatory reform - in particular deregulation and substitution of more competitive arrangements.

The report will try to animate a substantive program of change in regulations that will commend itself to legislators, to administrators and to the community at large. It will try to separate myth from reality in the area of regulation and deregulation. One of the difficult tasks in this field is to show convincingly how it is that less regulation is desirable, possible and makes sense in some areas, while in other areas more or different regulations may be appropriate.

Canadian industry keeps pace

Any fears that Canadian industry is not keeping pace with technological progress may be laid to rest by a recent Discussion Paper published by the Economic Council.

Based on the results of a survey of 170 firms run by Council economists Dennis DeMelto, Kathryn McMullen and Russel Wills, the report looks at innovation and technological change in five industries - telecommunications equipment and components; electrical industrial equipment; plastics compounds and synthetic resins; non-ferrous smelting and refining; and crude petroleum exploration and production. Companies were asked to report upon those innovations developed over the 1960-78 period which contributed most to their productivity. The answers they gave show that Canadian know-how is flourishing. "The evidence of diversity and flexibility...on the part of all the firms suggests a high degree of technological sophistication" report the researchers.

Companies in Canada lack technological savvy, critics say, because they don't do enough of their own research and development. And foreign ownership gets much of the blame for their backwardness. Too many companies here are multinational subsidiaries that are spoon-fed technology by their parents, the argument runs.

But where industry is getting its know-how is not necessarily the most important factor, argue the Council economists. What matters is whether Canadian firms can apply this technology to create new products and processes and improve old ones. Sometimes it's cheaper and easier to draw on the expertise of outside sources in developing an innovation; or again, it may be more efficient to produce the technology in-house. A healthy and progressive industry steers a course between the two extremes, says the report.

Apparently that's just what the surveyed firms are doing. And the researchers say they were "impressed with the evidence of a strengthening in the technological bases of the five industries over time." Of the 283 innovations reported - involving new or improved products (201) or production processes (82) - over half were world firsts for Canada. The remainder were imitations of useful ideas first introduced abroad. But increasingly, companies are using their own technological skills to do the work. Sixty-six per cent of the innovations covered in the survey were based on technologies developed by the firms' own research and development (R&D) program; and a further seven per cent were based on a combination of the firms' R&D and outside expertise.

Canadian-controlled companies developed considerably more of the technology for their innovations through in-house R&D, for both original products and processes and for the development of those already on the market than foreign- controlled subsidiaries. But the amount of in-house R&D conducted by foreign-controlled subsidiaries was still significant - in-house technology was used for over half of their reported innovations.

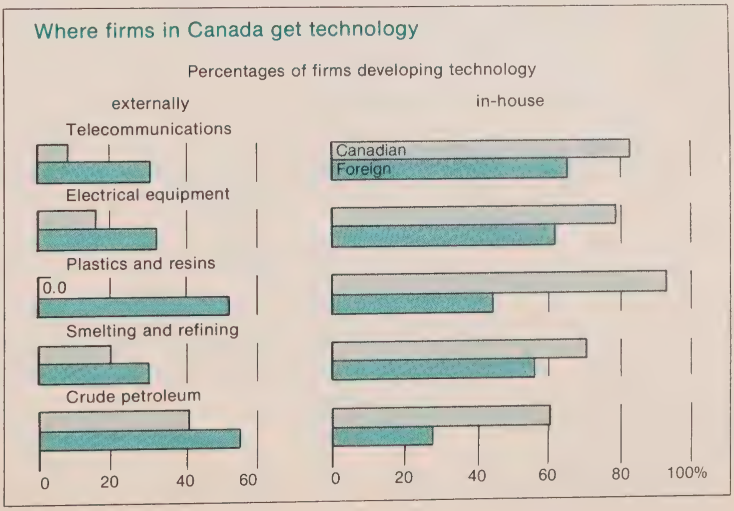
The trend to greater self-sufficiency in innovation and technological change for both types of firms over the past decade is a sign that industries here are successfully building a strong technological base, the Council economists conclude. And despite the grim predictions that have been made, technology growth does not appear to be displacing workers, at least in the firms producing the innovations. In fact, say the authors, the majority of innovations introduced during the 1960-79 period necessitated the hiring of more workers in the innovating firms.

Although the report paints an encouraging picture, it raises some concerns too. For example, small firms, especially Canadian-controlled ones, have trouble getting funds for research despite government assistance programs. Companies say finding the equipment needed for innovating can be a major problem; and a shaky economy in the 1970s reduced firms' spending on innovations, and caused them to concentrate on ventures that would be profitable very quickly.

But the most pressing problem the authors found was the relative lack of technology transfer from sources outside the multinationals. R&D is costly, time-consuming, and demanding of technological skills; so some companies prefer to pick up the expensive and complex technologies abroad. Foreign-controlled subsidiaries often have easy access to the resources of their parent companies when they want help, although they do use other sources of technology as well. But the range of effective options open to Canadian-controlled companies apparently is very limited.

Canadian-based research centres geared to developing selected technologies might fill the necessary gap, say the Council economists. They could also provide facilities for testing innovations - a service that would particularly benefit small firms.

"Preliminary Report: Innovation and Technological Change in Five Canadian Industries," by Dennis DeMelto, Kathryn McMullen and Russel Wills. Discussion Paper No. 176.



Unemployment measures misleading

Some unemployed Canadians may be lucky enough to find a new job just around the corner. In fact, nearly a third of those counted in the official unemployment rate will be working again in two or three months. Except in Newfoundland. There unemployment lasts longer, jobs are harder to come by, and workers often give up looking, says Council economist Harry Postner.

When workers are unemployed for short periods because they're "job-shopping" or "job-hopping" or because they've just joined the labour force, they are unemployed for what economists call "frictional" reasons. This kind of temporary unemployment is unavoidable and even healthy in a growing economy, Postner says. But when would-be workers are out of a job for long periods of time, or leave the labour force in total discouragement, there may be more serious underlying reasons for their unemployment.

In a study on frictional unemployment, prepared as background to the Economic Council's Newfoundland Report, Postner says there is considerable evidence to suggest that Newfoundlanders are ready, willing, but unable to find work. Ninety per cent of the unemployed there are looking for permanent full-time jobs. But very few - only 15 per cent by Postner's reckoning - succeed in finding one after only two or three months of being out of work. Not many workers, then, come within the economist's definition of frictionally unemployed. And quite a number - over 10 per cent in 1977 - stay unemployed for the entire year. Even those who do land a job have to look and wait around for about five and a half months first, when around four months is the Canadian average.

But a telling 50 per cent plus of the Newfoundlanders who become unemployed do not terminate unemployment by finding work. Instead, they drop out of the labour force and are no longer counted as unemployed in official statistics.

They leave not because they are easily discouraged or overly fastidious about the kind of job they want. On the contrary. Surveys have shown that many are more than willing to work, even if it means moving elsewhere. Quite a few have worked at some point during the year, and know what's going on in the labour market. If they've given up, it's probably because it's not worthwhile persisting, Postner says.

Jobs in the province are not only scarce, but short-lived as well, giving Newfoundlanders little incentive to track them down. Most workers can expect to keep the same job for no longer than six or seven months, not because they quit easily, but because the jobs themselves come to an end. As the chart shows, this is particularly true in the primary industries, manufacturing and construction. There isn't much likelihood of high frictional unemployment, says the Council economist, when a job isn't expected to last much longer than the time spent finding it.

Certainly this situation is bound to affect efforts to come to grips with Newfoundland's high unemployment. The existence of a large group of people who want work, but are not in the labour force, means that the extent of the province's unemployment has been seriously underestimated - particularly, Postner reports, since many new jobs are obtained not by the officially unemployed, but rather by these "hidden" workers. In fact, including this group in unemployment calculations for 1978 would raise the official rate from 16 to 24 per cent, the Council economist finds.

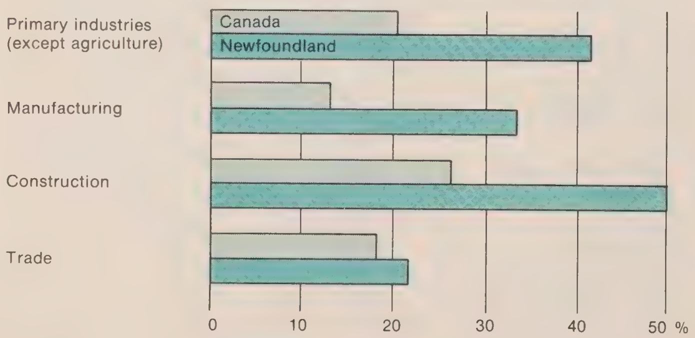
So measures to reduce unemployment will have to allow for a more widespread problem than is officially recognized. But more than that, they should be designed to get at the special causes of unemployment in the province. Programs to match temporarily unemployed people with available jobs may work well in other provinces where frictional unemployment is higher. But they won't do a great deal for Newfoundland. There, the seasonal (and thus short-term) nature of many jobs, the growth of new jobs requiring skills workers do not have, and changes in the business cycle account for much more unemployment than elsewhere in Canada. And chronic unemployment - the kind that goes on year after year because new jobs are not appearing - is also important.

As a result, economic policies that stimulate demand and create new jobs have a lot of room to work in Newfoundland. And as a bonus, these policies may even reduce frictional unemployment there, by providing more permanent jobs.

Postner's research casts new light on economists' theories on job-hunting and unemployment generally. It throws into question the traditional concept that unemployment is the necessary by-product of an efficient job market where people take jobs on their own initiative when it's not worth looking further. It also contradicts the theory that high rates of unemployment occur in labour markets where the unemployed are not accepting work because they've been misinformed about average wages and prices. Neither theory, Postner's work shows, really holds up in Newfoundland.

Jobs are short-lived in Newfoundland

Percentage of total jobs lasting less than six months
1978



A New Approach to Frictional Unemployment: An Application to Newfoundland and Canada, by Harry H. Postner (Catalogue No. EC22-84/1980E, $6.95 in Canada, $8.35 other countries).

A climate of uncertainty

The early 1980s will not be easy years for the Canadian economy, but once through the bad patch that lies ahead, the future looks reasonably bright. This at least was the message of the Economic Council's Seventeenth Annual Review, published last December. The Council said it was "not optimistic" about the near-term economic outlook. It saw a deterioration in the economic situation since the fall of 1979 - in part reflecting the worsened situation of this country's major trading partners.

Indecision persists

Difficulties in the external environment are only part of the story, though. On the domestic front, pervasive problems of inflation, government and trade deficits, unemployment and lower growth - all issues dealt with at some length in the Council's 1979 Review - persisted and even worsened during 1980. Indecision in the face of these problems has contributed to increased uncertainty about domestic policy and both have served to darken the economic picture. "That there is uncertainty is not surprising," said the Council, "our problems cannot be remedied easily." But it also warned that unless the questions of domestic oil pricing policy, delays in energy investment, acceleration of inflationary pressures and the federal government deficit are dealt with, they could affect performance in the medium term.

Priority for real incomes

If policy-makers can deal effectively with these issues, however, then there is a good chance that growth in the real incomes of Canadians will follow - and the Council believes that this now has to be top priority. There is really no need for the economy to linger in its present state of stagnation, the Council says.

But the extent of the problem is all too evident in the calculations of economic potential. Using the Council's CANDIDE econometric model, Council economists have estimated two potential paths for output growth over the next decade. Their estimates are based on projections of labour force growth, productivity and a non-inflationary rate of unemployment - basically the lowest unemployment rate that could be achieved by stimulating demand without at the same time increasing the rate of inflation.

The results show that the Canadian economy could lose as much as $120 billion in output over the next ten years because it is operating below potential. That estimate is based on the high potential growth path. If the output gap, measured in 1971 dollars, could be eliminated, government deficits could be cut significantly. The federal government deficit would shrink by $5 to $7 billion this year depending on what assumptions are made about potential. Under the high potential path, which assumed a higher labour force growth, improved productivity and continued restraint in government spending, Ottawa could even achieve a modest surplus of $1.6 billion by 1990. If the economy reached its low potential, the deficit would not be wiped out completely, but it would be substantially reduced.

Below potential

The economy has been operating below potential for almost eight years now. While Council economists estimate that Canada was close to potential in 1973, output growth since then has averaged only three per cent a year instead of the 4.2 per cent that might have been expected for the 1973 to 1978 period.

Prospects for the 1980s are not bright. The growth rate of output per person-hour, or productivity, will be lower and the labour force will be growing more slowly than in previous decades. As a result, both the actual and the potential rate of output growth will be lower than in previous decades. In 1981, the output gap, or the difference in projected growth in GNE and the low potential growth path, is projected to be over six per cent. But the economy is expected to grow at just under three per cent. To close the gap in one year would require a massive nine per cent increase in real output. Such a rate would, of course, be virtually impossible. But it demonstrates what an enormous job it will be to move the economy back to its potential, and that would be true even if the low potential growth path is the one used.

Much of the output gap can be attributed to the external environment and particularly the worsening economic situation in the United States. The Council says that if it had not been for the current cyclical slowdown in the U.S., the ouput gap could have been closed by mid-decade if we aimed for the low potential path. And we might have been halfway to closing the gap between actual growth and the high potential path.

Better productivity performance - an increase in output per person-hour - would help to bring down the inflation rate but it could increase the output gap unless it was accompanied by an increase in the total demand for goods and services. And that might be difficult to achieve in the current world economic environment, the Council says.

Comparisons useful

Comparisons between actual and potential output are used by economists to get a reading on possible economic policies. There are several reasons why the comparison is helpful:

- It focuses on levels rather than on rates of growth. On the face of it, a high rate of growth may seem to imply no need for further action. But if the economy is still way below potential, further stimulus may be needed. Similarly, a low rate of growth may not necessarily mean that stimulus is required because the economy may be operating close to potential. Focusing on levels rather than rates helps to draw attention to those policies that will encourage long-term growth as well as those that stimulate and achieve potential in the short run.
- Calculating the output gap provides a guide - even if it is only a rough one - to how much action needs to be taken. If the economy is operating near potential any stimulus will have to be applied very carefully, otherwise inflation may accelerate. On the other hand, a heavy dose of stimulation may have to be applied for an extended period if the economy is far from potential.
- The structure of taxes and government spending should be set to achieve the desired surplus or deficit when the economy is at potential. By calculating potential, it is possible to see what changes are needed to develop the required structures.

Projections for the economy

What kind of policies will be needed to get the economy back on the right track again? The most urgent question is to see what can be done to get through the difficult period that lies immediately ahead. But there could be risks associated with changing domestic oil pricing policies and there will certainly be implications if energy investment is held back or if wages start to accelerate. Governments may be limited in their choice of policies, too, because the overall government deficit is concentrated in the federal sector.

The Economic Council's contribution to the process of policy-making is not just to provide research which may form the basis for decisions, but also to look at the way in which different policy choices may affect the economy. This exercise helps to point out the areas where resolution of existing policy problems is most urgent.

In its annual review of the economy, the Council makes extensive use of its CANDIDE econometric model for this purpose. Each year, the Council economists make an initial projection for the economy, based on certain assumptions, and then this is used as a reference point to try out various policy options and economic scenarios and see how the projection would change.

The basic projection, or "base case," in the 1980 Annual Review was set in August 1980. It took into account the deterioration in the economic position of Canada's major trading partners over the previous year, and assumed that the tax and expenditure policies in effect prior to the October 1980 budget would continue and that the domestic price of crude petroleum would rise by $4 a barrel per year from 1981 on. It also assumed that a number of large energy projects such as Alsands, Cold Lake, the Alaska Highway gas pipeline and the Quebec portion of the Quebec and Maritime pipeline would be phased in. Council economists then applied different policy mixes and economic scenarios to the "base case" to see how the projections for the economy would change if certain policies were adopted.

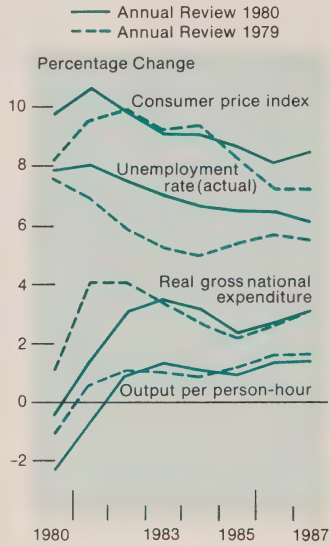
Although the Annual Review was prepared before the details of the October budget were known, Council economists have also estimated how the basic projections would change as a result of the budget. Details of these calculations have been published in Discussion Paper No. 185 (see below).

The Council's initial projection for the economy found that:

- Real growth in 1980 would probably be "extremely weak" with "unspectacular recovery" expected during the 1981-83 period. "Only in the closing years of the decade is actual performance projected to be near its potential level," said the Council.

How the world economy affects Canada

The chart below summarizes the effects on the Canadian economy of changing the assumptions about foreign economic conditions. The basic projections made in the Council's 1979 Review are compared with the basic projections of certain key indicators in the 1980 Annual Review.



- Inflation was likely to be at double-digit levels in 1980 and would probably continue high through 1982. In the longer term, inflation was expected to average eight to nine per cent a year.

- Unemployment would probably hover around eight per cent in 1981 and drift downward slowly to under six per cent only by the close of the decade.

- Before the budget, the Council had expected the trend to federal deficits and provincial surpluses to continue with the federal deficit easing somewhat in the late 1980s. Provincial surpluses were expected to increase to 1985 and then to decline to about the same percentage of gross national expenditure in 1990 as in 1980. These results depend on continued restraint in government spending throughout the decade.

The "base case" presented in the Council's Annual Review differed in several respects from the assumptions made by the Department of Finance as a basis for budget policies. The October budget assumed higher rates of growth in world oil prices than the Council's "base case" did. The Council also made different assumptions about domestic oil and gas prices, about energy taxes, the recycling of revenues from these taxes and on the timing and magnitude of some of the large energy projects and investments of public utilities.

Council economists have now estimated the effect of the budget and the National Energy Program on their initial projections, or "base case." As a result of the budget, the energy program, and the different assumptions made by the Department of Finance, they estimated that the projected growth rates would be lower in the 1981-85 period, the projected unemployment rate higher and the projected inflation rate somewhat higher, as was indicated in the budget statement itself.

The economists expect the budget and the National Energy Program to improve the fiscal position of the federal government, but they warn that the whole exercise "must be interpreted with a great deal of caution." It all depends on the assumption that domestic consumers will substitute natural gas for oil so that oil imports and import subsidies can be reduced substantially. "If this substitution does not occur," the discussion paper says, "import subsidy payments will not decline and the current account balance will not improve."

Details of the impact of the budget may be found in "An Assessment of the Impact of the Federal Budget on the Canadian Economy" by B. L. Eyford, Bobbi Cain, H. M. Saiyed and R. S. Preston, assisted by P. Nevin. Discussion Paper No. 185 (see page 2 for information on ordering).

Energy investment essential

When the Economic Council presented its Sixteenth Annual Review of the economy in 1979 it identified two driving forces in the Canadian economy: the world economic outlook, and particularly the prospects for the United States economy - even though they were modest ones at the time; and high domestic energy investment. Now only the energy investment remains to move the Canadian economy forward over the next few years. "The current weakness," said the Council in its 1980 Annual Review, "will be reflected in the medium term in slower output and productivity growth, a larger overall government sector deficit and, in the later years of the decade, greater difficulty in reducing inflation."

With so much depending on these planned investments, the Council expressed its concern that large-scale energy investments may be held up because of uncertainty about energy pricing and sharing of oil revenues. It recommended that "federal and provincial governments take all the steps necessary to ensure that the large scale energy investment projects . . . proceed without further delay."

The Council's basic projection for the economy (see previous page) assumed that several major energy projects would be undertaken during the next ten years. As well, investment in electric utilities was assumed to grow in real terms at two per cent a year from 1982 to 1990. To see how important these projects are to economic growth, Council economists tried out a scenario where the large energy projects were cancelled. Alsands, Cold Lake, the Quebec portion of the Quebec and Maritime Pipeline, the Alaska Highway Gas Pipeline and the East Coast Pipeline were all withdrawn. They also assumed that only a minimum of investment activity in the present Syncrude project would be carried forward, with no additional expansion. Other assumptions in this scenario were:

- The rate of investment in electrical utilities dropped 1.5 per cent a year over the next ten years.
- Mining investment in crude petroleum and natural gas, including oilsands activity, dropped by $7.5 billion in constant 1971 dollars over the decade.
- Transportation investment, including pipelines, was reduced by $4.6 billion and utilities investment by $5.8 billion in the same period, all in 1971 dollars.

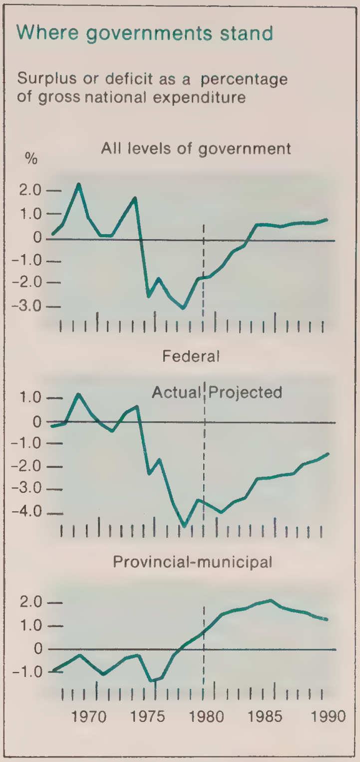
These are the implications:

- Domestic crude oil production would fall over the 1985-90 period because oilsands projects had been withdrawn and increased oil imports would be needed to fill the gap.
- Lack of natural gas links to Quebec would discourage consumers from switching to natural gas so even higher oil imports would be needed.

Assuming that these energy-related investments were not replaced by other investments, Council economists found that cancellation of the projects would reduce the growth in gross national expenditures (GNE) by one percentage point in 1981 and by half a percentage point in 1982. As many as 753,000 jobs could be lost over the next ten years if this energy-related investment does not take place.

But if Canada wants to make sure that future investments in energy take place, "the return on investment to producers must be sufficient," the Council says. Investment in alternative energy sources and conservation, as well as in fossil fuels, "may well depend on higher energy prices." It recommended that the domestic price of oil should be increased by $5 to $6 a barrel each year over the next five years to reach at least 75 per cent of the U.S. price by mid-decade. After that, the price should go up at a fast enough pace to reach at least 85 per cent of the U.S. price by 1990. Higher energy prices will generate long-term benefits to the economy, according to the Council. But although the costs of adjustment will be broadly shared by all Canadian consumers, the Council said that "it is vital that low income individuals and families receive special consideration."

A more rapid increase in domestic oil prices would lead directly to higher consumer prices, lower real income growth and, for most of the decade, higher unemployment. Yet without such increases, the Council says, there will be further deterioration of the federal deficit and the current account of the balance of payments, an increased threat to Canada's energy self-sufficiency, and an increasingly distorted industry structure.



In the longer run, increased domestic growth, reduced oil imports and a stronger Canadian dollar will offset the costs imposed by higher oil and gas prices, the Council says.

In the meantime, as long as Canada has to import oil, then the difference between the domestic price and the world price has to be paid for through higher taxes or through reduced profits for producers and/or royalties for the producing provinces. "The provinces have a legitimate right to seek revenues from this tax base," the Council says, "and their willingness to allow the development of oil and gas resources probably hinges on the receipt of perceived 'fair rents'."

In any event, the Council says that it is clear that Canadians "will have to keep medium and longer term objectives strongly in mind when weighing the short-term benefits and costs of policy alternatives." The burden of adjustment would be eased, too, if productivity performance could be improved. On the next few pages, some of the Council's findings on this subject are discussed.

The productivity puzzle

Over the past few years, the Economic Council has chosen a particular theme for its annual review of the Canadian economy. This year, the report focused on productivity, and three chapters were devoted to this subject. Council Chairman David Slater told a press conference that the Council is now involved in "some very promising new approaches to productivity analysis," but the work is not yet far enough advanced for it to make any detailed recommendations on the subject.

While the 1980 Annual Review is to some extent a progress report on the Council's study of productivity, some interesting findings have come to light and they are detailed on this and following pages.

Real income drop

There is certainly no doubt that poor productivity performance over the past few years has meant lower real incomes and higher prices for Canadians. The Council calculated that if the kind of productivity growth experienced in the 15 years up to 1973 had been maintained throughout the 1970s, Canada's total output - that is the total of goods and services available for all uses - would have been 14 per cent higher in 1979 than it actually was. Or put another way, in the six-year period from 1974 to 1979, Canadians could have had nearly $58 billion more to spend on private consumption and social programs. (The calculations are based on constant 1971 dollars.)

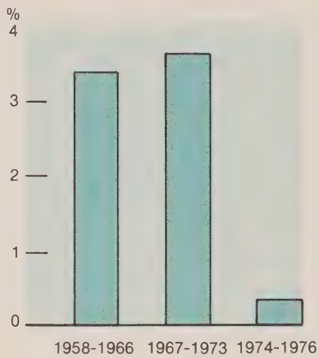
Adjustments needed

While the costs of poor productivity performance are painfully obvious, the Council cautions that achievement of productivity growth is not without its cost either - at least in the short run. At any particular time, the benefits of improved productivity performance may not be evenly distributed. Productivity might be improved by technological change, for example, but that might also mean that some workers would lose their jobs. To deal with the problem and help the adjustment process there would have to be some kind of compensatory policies, the Council says.

But even if that could be worked out, it may not be such a simple matter to boost productivity. Economists are still trying to figure out what influences productivity and why Canada's recent performance has been so poor. The problem is not unique to this country - productivity growth has also fallen in the United States, Western Europe and Japan. Indications are that the decline began around 1973-74. And since that was the time that oil prices started their meteoric rise, with commodity prices not far behind, some analysts have suggested that those sharply higher prices may have caused the productivity slowdown.

The Productivity Slowdown

Average annual percentage change in output per person-hour



The chart shows how much overall productivity growth has declined. The numbers are based on the average of data from all sectors of the economy. Because of double-counting, the figures will not match similar calculations for gross national product, but the story they tell is very similar. From 1974 to 1976 the rate of growth of output per person-hour — or "labour productivity" — was very much lower than that in the period from 1958 to 1966 or in the period from 1966 to 1973.

A number of other explanations for the slowdown have been put forward. In times of economic slowdown or even recession, production is less efficient because the economy is operating below capacity. If companies believe the business slowdown is only temporary, they may hesitate to lay off workers because the costs of firing and then hiring again may be higher than they would save on wages. This kind of labour hoarding will reduce output per person-hour which is how productivity is usually measured.

There are other possibilities:

- A slowdown in the rate at which new factories are built or old ones expanded and in the rate at which new machinery and equipment is acquired could slow productivity growth.
- The development and application of new technology may have slowed down.
- The increased importance of the service sector in the Canadian economy may have reduced measured productivity growth. It's hard to measure output in service industries and if output can't be calculated, how can we know if output per person-hour has improved or not?
- There may have been an improvement in the quality of goods and services produced. So even if output per person-hour remains the same, the quality of the output has improved and that does not show up in improved productivity as it is now measured.
- The shift of resources from previously low productivity areas such as agriculture has slowed or stopped and so this kind of avenue to productivity improvement is now closed.
- There may be a higher percentage of workers in the labour force who have less skill and experience and that could pull down output per person-hour.
- Some government activities, such as those that divert resources away from production to deal with pollution, for example, may have reduced measured productivity.

The Council's findings on these possibilities are detailed on page 12. It says that its work on productivity has led it to conclude that only about half of the productivity slowdown can be explained at the moment. Weak demand associated with downswings in the business cycle is apparently the single most significant contributing cause. The other half of the explanation remains a puzzle.

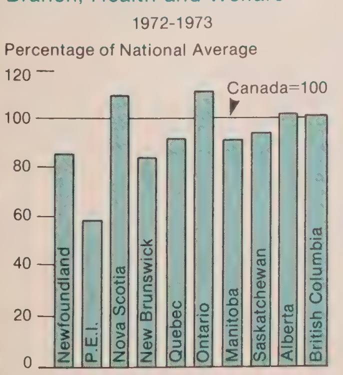
Is there productivity in services?

The Council has also looked at productivity growth on a regional basis and has turned up some important regional differences in productivity, not only in the goods-producing sector but also in service industries. In fact, its analysis of productivity in the service sector of the economy opens up a promising new avenue of approach to productivity analysis in general.

The service sector now accounts for two-thirds of the whole economy so if productivity performance is to be improved, it will have to be improved in the service sector. Some people, however, might consider that statement open to question. Services are intangible and difficult to measure. What is the output per person-hour of a teacher, for instance, or how can we measure the productivity of an official whose job is to enforce anti-trust legislation? Scepticism about measurement may then get translated into a feeling that the less we have of services the better. The fact that this reaction seems to come through strongest in relation to the services provided by governments leads one to suspect that the objections may have more to do with who provides the services than with service activities in general. There seems to be less complaining about such "unproductive" service activities as piano lessons or baseball games.

The idea of improving productivity in the service sector may also run into problems from those who believe that if it's so hard to measure, then how can we improve it or how would we measure an improvement even if we thought we'd achieved one?

Productivity in provincial offices of the Income Maintenance Branch, Health and Welfare



The Economic Council does not share these concerns. "We are not convinced of the ultimate impossibility of measuring output in these activities," it said in the Annual Review, "and we think that productivity improvement is possible in the great majority of service sector industries." It would not be that difficult to come up with some examples: fast food outlets can replace conventional restaurants; computerized cash registers can replace the more old-fashioned variety; hand tools in garages can be replaced by power tools; and containers and jumbo jets can improve transportation efficiency.

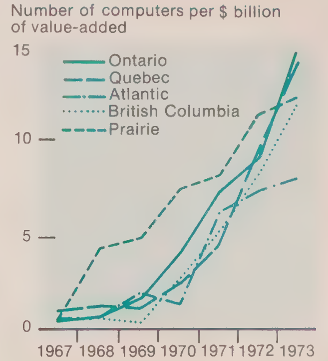
Certainly, the Council's analysis of regional productivity differences demonstrates that it is possible to get quite accurate measures of productivity in some of the service industries and that means it is also possible to make real improvements in productivity in these industries.

In federal government administration, for example, output per worker varies quite widely among provinces. The Council looked at the Income Maintenance Branch of Health and Welfare Canada (see chart). This branch has developed performance indicators for about 85 per cent of its operations so that it can measure efficiency. The indicators include: the average time taken to process applications for benefits; the percentage of cheques returned; processing error rates; average waiting time for a client interview; and average response time for a field visit. This kind of performance measurement helps management achieve efficiency goals and maintain an adequate level of services.

Between 1973-74 and 1975-76, for example, the average time needed to process new family allowance applications was reduced from 11.4 days to 5.8 days. And over the four year period between 1972 and 1976, the measured work load of the Income Maintenance Branch increased while the number of person-years worked decreased. The improvement in efficiency was about three per cent a year.

The Council also looked at the productivity of physicians in different regions. By standardizing the output of physicians, taking into account provincial variations in degree of specialization and in payment for different services, Council economists were able to identify provincial variations in real output per physician. They were not able to make any allowance for variations in the quality of physicians's services, but the results were surprising. Output per physician ranged from 13 per cent above the national average in Newfoundland to 10 per cent below in British Columbia.

Use of computers for production control in goods-producing industries



Other work included some inter-regional comparisons of the spread of such productivity-improving innovations as computers, shopping centres and cargo containers, and a comparison of output per worker in Newfoundland and Ontario for individual service industry establishments in retail trade, trucking, the provision of insurance and hotel accommodation.

The conclusion was that there is considerable scope for improving the level of productivity in Canada simply by closing some of the gaps in productivity between regions. If provinces with low productivity in their service sectors were only brought up to the present national average, the level of national productivity could rise between two and three percentage points.

Less conservative estimates, based on bringing the productivity of all regions up to the levels of Ontario or British Columbia, show that national productivity could be raised by as much as six percentage points.

Explaining the productivity slowdown

Over one quarter of the economy-wide productivity slowdown was due to cyclically weak demand. This much is clear from the Economic Council's work so far. Many of the Council's conclusions, which it cautions may be "only tentative at this stage," are the results of an econometric analysis of labour productivity, or output per person-hour. Here are some of the findings:

- Only about one-third of a percentage point of the recent productivity slowdown can be accounted for by the kind of structural shift that takes place when labour and output move from low productivity industries to higher productivity ones as part of the industrialization process.
- Although some people have blamed the slowdown on the increased percentage of less-experienced workers in the labour force, the rate of growth of this labour force segment was actually declining in the 1974-76 period. Changes in the composition of the labour force did not contribute significantly to the productivity slowdown.
- Council economists could find no clear evidence that a slowdown in the rate at which new technology is developed and adopted might have caused the productivity slowdown.
- There does not seem to be any evidence to support the suggestion that the slowdown can be blamed on a slowing in the rate at which new plants are built or old ones expanded and the rate at which new machinery and equipment is acquired. Declines in capital accumulation in some industries have been matched by increases in others.
- The degree to which industries use their productive capacity varies with the swings in economic activity that characterize the business cycle. Capacity utilization was down throughout the economy in the 1974-76 period. The Council concluded that the business cycle had a considerable impact on productivity growth.
- Economies of scale may have played a role, but they are so complicated to analyse that it is hard to estimate their effect. The Council's analysis concentrated on plant economies and did not take into account product economies, multiplant economies, economies of scale in research and development and marketing or economies of market size. Plant economies do not seem to have had much influence on the productivity slowdown in manufacturing, but their influence was important in primary industries and construction.
- The evidence is not conclusive enough to pin primary responsibility for the productivity slowdown on changes in the price of energy and materials. But energy prices do have some influence on capital accumulation. Just what the effect would be may depend on whether or not energy and capital are substitutes or complements. Does industry decide to reduce machinery and equipment when energy prices go up making it more costly to operate (the complementarity argument)? Or do higher energy prices encourage industry to install capital-intensive, fuel-saving equipment (the substitutability argument)? The answers are not clear at the moment, but research is continuing at the Council and elsewhere on this important question. When this research is complete, the Council says, it will be possible to make judgements on what role energy prices have played in the productivity slowdown and what are the implications for the future.

All in all, the Council says, cyclical factors, capital accumulation, changing labour force composition and identifiable technical change together account for about 33 per cent of the productivity slowdown. Perhaps another nine per cent is attributable to structural shifts. Whatever the effect of higher energy prices, there is still a good half of the slowdown left unexplained. But the Council says it is optimistic that its own ongoing studies and work in other places in Canada and in other countries will eventually solve the puzzle.

Harvard economist blames energy prices

Although work at the Economic Council has so far not identified energy prices as the culprit in the recent productivity slowdown, other economists have already come to some conclusions on the subject. Harvard economist Dale Jorgenson told a recent seminar at the Council that in the United States, at least, the dramatic increase in energy prices following the Arab oil embargo in late 1973 and early 1974 has been associated with a decline in productivity growth in a large number of industries.

Based on an econometric analysis of productivity for individual industrial sectors, Jorgenson, an international authority on the economics of energy, found that the impact of higher energy prices was to slow the growth of productivity in 29 out of 35 industries he studied.

Given the sharp increase in the price of energy relative to the prices of other resources used in the productive process, "the prospects for productivity growth at the sectoral level are dismal," Jorgenson says. Unless there is some reduction in the price of the other inputs to production - capital and labour - Jorgenson expects declines in productivity growth for a wide range of U.S. industries, a decline in the growth of productivity for the U.S. economy as a whole, and a further slowdown in the rate of U.S. economic growth.

This could be avoided if some measures were taken to "reduce" the prices of capital and labour inputs and Jorgenson sees such measures as essential if the unsatisfactory economic performance of the 1970s isn't to be repeated. He advocates cutting taxes on income from capital, and cutting payroll taxes to reduce the price of labour input.

But the prospects for changes in tax policy that would have a substantial positive impact on productivity growth in the early 1980s "are not bright", Jorgenson says. Any attempt to balance the federal budget in the United States during 1981 in the face of a sharp recession during the last half of 1980 and the first half of 1981 will require tax increases rather than tax cuts. Higher inflation rates have resulted in an increase in the effective rate of taxation of capital, and payroll taxes are currently scheduled to rise this year. "For these reasons," he says, "it appears that a return to the rapid growth of the 1960s is out of the question."

Would wage and price controls do any good?

Rising prices. They have been described as the curse of the 1970s, but the world has now entered a new decade and the upward march continues. Such inflation has left consumers wondering whether they should go heavily into debt and buy now rather than later when the same product might cost considerably more. Manufacturers are equally indecisive about what kind and level of investment they should be making.

Caught in between are the policy-makers who must decide what course the economy is to follow. Their task is not made any easier by the economists who seem to have split into two camps with two different solutions to the problem of inflation. On one side there is the wage and price controls school who believe rising prices will never disappear until increases in both prices and incomes are restricted by law. The other side says wages should be indexed to rising prices to help people cope while the government works to eliminate inflation from the economy.

The crux of the debate is really what effect these policies have on economic growth and price stability. Someshwar Rao, a Council economist, has prepared a discussion paper for the Economic Council of Canada which takes the two theories and analyses their possible effects on the Canadian economy. His analysis shows Canadian governments face hard choices no matter which course they follow.

Canada's situation

Canada is a small and open economy. It has, by world standards, a small domestic market, and must look outside its borders to sell many of its products. If international prices rise, Canadians face higher costs for many needed goods. If foreign economies falter, particularly the United States, the Canadian economy suffers.

The author wanted to see if, in this type of economy, the theories would hold. Would incomes policies really control inflation in the long run by reducing real wages and dampening demand? Would controls ease the problem of stagflation and what would be the effects on income distribution? The supporters of wage-indexing say output losses are less severe than under controls which they say distort the economy. But does linking wages with prices worsen inflation or have an adverse affect on government budgets and exchange rates?

Rao used CANDIDE which is the Economic Council's econometric model of how the Canadian economy works. The researcher using the model can show how a change in money wages will affect Canadian prices, government revenue, investment, consumer expenditures, and the demand for and supply of labour.

Trade-off theory refuted

In the course of his analysis Rao found evidence which indicates that in the long run one cannot trade off unemployment and inflation, a significant refutation of the popular theory that one can choose to have less unemployment by accepting slightly higher prices.

Rao simulated the effects on the Canadian economy of wage and price controls and various forms of wage-indexing. For the controls, he assumed a three-year period in which the growth of prices in different sectors fell by two per cent a year. Wage rates in the various sectors were assumed to fall by three per cent yearly in the same period. Government control was assumed to be one hundred per cent effective and after that the system returned to its usual way of working. In other simulations wages were compensated fully for the rise in the consumer price index and the price index of the gross domestic product. The author found that wage acceleration is smaller when wages are linked to the price index of GDP.

His conclusions demonstrate how complicated a problem our economic managers face as they try to wrestle with inflation.

CANDIDE indicated wage and price controls would keep real wages down in the short run and would reduce inflation during the three-year period they were in effect. In the years after the control period, real wages would gain and so would final demand. But in the long run wage and price controls would not have a significant effect. Instead, an inflationary bubble might result once controls are removed.

In contrast, simulations using different types of wage-indexing showed increases in both wages and prices resulting in a real gain in wages. But Rao says there is no evidence to suggest that even the most extreme form of wage-indexing results in an acceleration of inflation over time. But if there are supply shortages, the wage-price spiral will be much more severe if wages are indexed.

There are added difficulties for the policy-makers. Under controls, the CANDIDE model showed inflation and unemployment would be reduced. But with inflation on the rise after the controls are removed, the economy could then quickly return to a period of stagflation.

Each system also had different effects on labour supply, government and trade deficits. Labour supply would become a bigger problem when wages were indexed, for more people would be attracted into the work force. If there were controls, domestic costs would be lowered and the current account of the balance of payments improved, but the federal government's deficit would be worse in the long run.

Effects of monetary policy

Rao then took his analysis further by looking at the effects of monetary policy on the Canadian economy under controls and then with wage indexing.

The author found money supply changes do influence real output whether wages are indexed or not. The results imply that a restrictive monetary policy would produce bigger output losses in the medium run if wages were linked to the CPI than if there were no indexing. This conclusion is exactly opposite to the one put forward by Milton Friedman and his supporters.

But the results also suggest monetary policy will be more effective in controlling inflation when wages are fully compensated for the cost of living.

"The Relative Impact of Wage-Price Controls and Wage Indexation on Economic Growth and Price Stability," by P. Someshwar Rao. Discussion Paper No. 166.

Council to make recommendations

The Economic Council's study of government regulation in the economy, begun in 1978, was undertaken at the specific request of the Prime Minister, following a recommendation of the First Ministers' conference that "the whole matter of economic regulation at all levels of government should be referred to the Economic Council for recommendations for action, in consultation with the provinces and the private sector."

Council economists have been looking at regulation in a number of different sectors of the economy in a wide sweep of studies that include everything from tomato and asparagus marketing boards to the Foreign Investment Review Agency. Detailed studies have dealt with:

- agriculture - including the dairy industry, beef and pork production, marketing boards and the food policy process in general;
- transportation - including regulated Canadian airlines, how deregulation in the United States might affect Canada, and regulation of the automobile, the trucking industry and taxis;
- the environment - focusing on toxic chemicals, acid rain and pollution control, the pulp and paper industry, and the environmental impact of the oil and gas industry;
- fisheries regulation - from Bay of Fundy herring to Pacific salmon;
- food processing, distribution and retailing - how red meats, dairy products and fruit and vegetables are regulated;
- land use - from building codes to use of land in various cities;
- occupational health and safety;
- pharmaceuticals - focussing on government intervention and the price of prescription drugs;
- telecommunications - dealing with general issues of regulation as well as questions of natural monopoly and technical change.

As well, a number of general studies have been undertaken to look at the costs of compliance with regulation, consumer protection legislation, voluntary standards and labour legislation as regulation.

The final report on regulation will be published shortly. In conjunction with its release, the Council will sponsor three conferences on regulation in Toronto, Montreal and Vancouver.

Reports on regulation now available

A number of working papers and technical reports dealing with regulatory issues have been published in advance of the final report. These papers are available free of charge, and can be ordered from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, KlP 5V6.

Working Papers

No. 1 "A Case Study of the Proposals for Energy Consumption Labelling of Refrigerators," by Ron Hirshhorn

No. 2 "Rationalizing the Regulatory Decision-Making Process: The Prospects for Reform," by Bruce Doern

No. 3 "Studies of Trucking Regulation: Vol. II," by Bonsor, Boucher, McRae, Prescott, Lord and Shaw

No. 4 "Evaluation and Policies for Regulating Environmental Pollution," by D. N. Dewees

No. 5 "The Economic Evaluation of Residential Building Codes: An Exploratory Study," by Irving R. Silver, assisted by Rao K. Chagaralamudi

No. 6 "The Cabinet as a Regulatory Body: The Case of the Foreign Investment Review Act," by R. Schultz, F. Swedlove and K. Swinton

No. 7 "Environmental Regulation of the Nanticoke Industrial Complex," by J. G. Nelson, J. C. Day and Sabine Jessen

No. 8 "Study on Government Regulation in the Red Meat Industry," by Keith Leckie and John Morris

No. 9 "Land Use Control Legislation in the United States — A Survey and Synthesis," by Julie H. Seelig, Michael Goldberg and Peter Horwood (The Urban Research Group, Ltd.)

No. 10 "Time to Approve: Land Development Risk and Regulation in Montreal, 1966-77." by Dr. A. F. Eger, Montreal

No. 11 "An Analysis of the Effects of Government Regulations on the Canadian Fruit and Vegetable Processing Industry," by Robert G. Shapiro and David R. Hughes

No. 12 "Private Wants and Public Needs: The Regulation of Land Use in the Metropolitan Toronto Area," by S. Proudfoot.

No. E/II "Motor Carrier Regulation: Institutions and Practices," by F. P. Nix, R. K. House & Associates Ltd., Missisauga, and A. M. Clayton, Clayton. Sparks & Associates Ltd., Regina. (This is Vol. I. Vol. II is Working Paper No. 3 above)

Technical Reports

No. 1 "The Incidence of the Costs of Compliance with Government Regulation," by Jeffrey I. Bernstein, Christopher Green (McGill)

No. 2 "Rationales for Regulation" by Robert D. Cairns (McGill)

No. 3 "Sulphur Dioxide Regulation and the Canadian Non-ferrous Metals Industry," by B. E. Felske and Associates, Ltd.

Cabinet does poor regulating job

If its handling of the foreign investment review process is anything to go by, giving the federal cabinet a detailed regulatory role invites confusion and irresponsibility. Or so says a working paper written for the Economic Council's study on regulation.

Based on a study by Richard Schultz of McGill University, Frank Swedlove, on secondment from the Foreign Investment Review Agency, and Katherine Swinton of the Faculty of Law at the University of Toronto, the report says that when Cabinet takes on a regulatory function, as it has with the Foreign Investment Review Act, the result is "political control without meaningful effect and decision-making without responsibility" - the worst of all possible systems.

Passed by Parliament in 1973, the Foreign Investment Review Act created an agency to screen foreign takeovers of Canadian firms, and the establishment of new foreign-owned business to determine whether they result in "significant benefit" to Canada.

But the agency itself has no real power. It can make recommendations to Cabinet through the Minister of Industry, Trade and Commerce, but it can't give a final ruling on applications. Cabinet alone has this prerogative, along with the power to decide Canada's policy on matters of foreign investment.

Although the intention was to establish the principle of political control over the FIRA process, using the Cabinet as a regulatory authority has not exactly been an unqualified success. The Cabinet has failed to use its political power to develop a meaningful foreign investment policy, says the report, and what is even more serious, it does not have to explain or account to anyone for the decisions it takes.

Why hasn't Cabinet set policy guidelines? Largely, the report claims, because it has become bogged down by the sheer number of cases it has to handle. Each application is considered separately - and 2,495 were processed between 1975 and 1979. In fact, the report comments, "no other individual activity routinely takes as much Cabinet time as acting as the decision-maker on individual FIRA applications."

Cabinet has not followed through on a ministerial promise that it would flesh out the very general principles laid down in the Act. The sole test of whether foreign investment should be allowed in the country still depends on the "significant benefit" it brings to Canadians - a test Opposition MPs in 1973 called hazy in definition, and open to subjective judgement. Even in this important policy area, more specific guidelines have yet to be established. And when policy guidance is given, says the report, it's done informally and unofficially without public notification to interested parties.

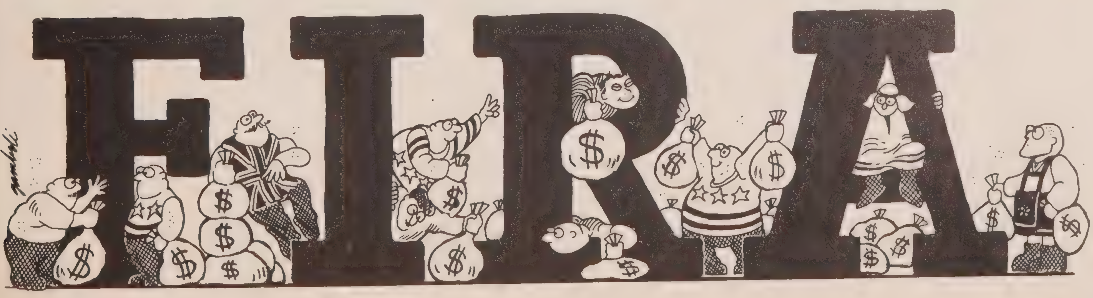
But Cabinet's failure in the policy area pales into insignificance beside its second drawback as a regulating body: its immunity from the process of political accountability. No provisions in the Foreign Investment Review Act require Cabinet ministers to answer to Parliament for the rulings made on FIRA applications. The Act in fact bolsters the principle of Cabinet confidentiality by giving the responsible Minister the right to decide whether to release details of a particular case. To date, he has deferred to the wishes of applicants, who usually don't want undertakings made public. As a result, there is no way of knowing how - and how well - the Act is being implemented. "We do not know, and under the present system cannot know, if Cabinet has been consistent, prudent, honest or indeed lawful in its implementation of the law," the report charges.

To avoid an accounting of how they performed their responsibilities, authorities hide behind the myth of FIRA's independence, the report claims. The very decision to establish an agency outside a department of government was an obvious attempt to focus attention away from Cabinet and the Minister , it says. Criticisms are directed at the agency because the public is generally unaware it has no power. And the habit of having the Commissioner of FIRA rather than the responsible Minister defend the Agency's estimates before the parliamentary committe, reinforces the fiction that the Agency makes the decisions.

Parliament must take some blame for the FIRA situation, the report maintains. Members should have seen that better safeguards were built into the Act in 1973 - as they could have done in the minority government situation of the time.

As a contribution to the Economic Council's work on regulation, the authors of the report saw their task as one of determining what advantages and disadvantages can result when Cabinet is employed as the regulatory agency. "The FIRA process as an example," they say, "suggests that the advantages may be wholly theoretical while the disadvantages may be all too real."

"The Cabinet as a Regulatory Body: The Case of the Foreign Investment Review Act," by R. Schultz, F. Swedlove and K. Swinton. Working Paper No. 6.



Gamboli — The Gazette

Canada would benefit from wheat agreement

If fluctuations in the price of wheat can be controlled, Canadian consumers will be better off. But right now, countries can't agree on how to regulate the price of internationally traded wheat. Anthony Ellison, in a report prepared for the Centre for the Study of Inflation and Productivity, argues that an unstable wheat market explains a good deal of the inflation experienced during the early and mid-seventies. When grain prices soar as they did in 1974, food prices soon follow suit, he says.

During the sixties, wheat was produced abundantly by the United States, Canada, Australia and Argentina, the four big exporting countries. Trading prices were low as a result, and they were kept that way by the high tariffs the developed grain-importing countries imposed to protect their own grain sectors. Farmers in the exporting countries reacted by cutting back on grain production. Wheat stocks dwindled. And when poor harvests everywhere coincided with low levels of available grain in 1974, prices rose to record high levels.

Canada felt the pinch along with everyone else. Higher grain prices here meant farmers could no longer afford to feed their livestock, and they responded by slaughtering cows, pigs and poultry. After initially falling, meat prices soared, raising the food component of the Canadian Consumer Price Index by 7.4 per cent, and pushing the total CPI up by over two per cent between 1973 and 1975, Ellison's simulations show.

To avoid a repetition of the 1974 grain price increases, exporting nations attempted to re-establish an effective international wheat agreement. One proposal recommended that importing and exporting countries should maintain internationally coordinated stocks of grain which would not be sold above or below an established price range. But at a meeting in Geneva in 1979, negotiating countries could not agree on what this range should be. And efforts made at the Tokyo round of GATT to ease trade barriers to grain were not very successful either.

Canada stands to benefit substantially from a stabilizing of grain prices, Ellison says. As a large producer of both grain and meat, it has every interest in keeping the price of grain within a range that allows farmers a decent return without raising food prices excessively.

But if the present situation is allowed to continue, Canadian food prices will skyrocket whenever harvests are bad. Grain stocks are low now in all the exporting countries - probably insufficient to meet world demands in a year of poor crops. And with little promise of an international agreement or a system of internationally held stocks to safeguard against such a crisis, we can only hope, Ellison concludes, that harvests remain reliable.

"The Canadian Interest in an International Wheat Agreement," by Anthony P. Ellison, Discussion Paper No. 167.

Is the CPI overworked?

COLA clauses have become a standard part of many collective agreements, and the inclusion of a cost-of-living adjustment clause has been a major issue in some strikes. For many Canadians, monetary compensation for the rising "cost of living" forms part of their daily lives. Tax brackets, pensions, social assistance payments and some wages rise as prices rise.

The key to these increases is the consumer price index. Every time the cost of the basket of goods and services which constitutes the consumer price index (CPI) moves upward, a host of payments are increased as well. Cost-of-living adjustments are almost invariably linked with the CPI. It is that link which Michael McCracken and Elizabeth Ruddick, in their paper originally prepared for the Centre for the Study of Inflation and Productivity, point out could lead to misunderstandings about the economy and what is happening to prices.

The authors conclude too much is being expected from the CPI, but there are many reasons for this state of affairs. The CPI is a convenient measure. It is published monthly, just a few weeks after the end of the period it covers. That speed allows changes in indexed payments to be made quickly. Since the index is not revised, it provides a consistent series for the types of adjustments built in to "cost-of-living" changes.

But the index does have some disadvantages. A major flaw, according to the authors, is the CPI's inability to keep up with changing tastes, or, for that matter, substitutions made by Canadians as prices change. The basket of goods now being used is based on information gathered in a family expenditure survey taken six years ago. At that time, it was found that Canadians spent a smaller part of their budget on food and more on leisure activities and housing. As the relentless rise of prices continues, and new products are introduced, the authors question the emphasis we now place on what may be an outdated and misrepresentative selection of goods and services.

There is also the possibility, they say, that improvements in the quality of goods may not be reflected accurately, though Statistics Canada does try to allow for such improvements when prices are measured. There are other drawbacks. The CPI is not a cost-of-living index and therefore many items are never recorded in the CPI. Changes in income taxes and the cost of services paid out of tax revenue are not in the index. But price alterations here could affect what else the consumer buys.

Since the CPI is really a national average, McCracken and Ruddick conclude its use leads to the over-compensation of some individuals who have index-linked payments and the underpayment of others. In addition, they worry that by using the CPI for indexing, Canadians are being shielded from the price effects of a devalued currency, thereby calling into question the effectiveness of devaluation as a tool for certain sectors of the economy.

The authors caution against the increasing use of the CPI. They think it should be used in conjunction with other measures such as the implicit price index of gross national expenditures and the industrial selling price. For them, the CPI is one tool in gauging price shifts and changes in the cost-of-living, but it is not the only one.

Towards a Better Understanding of the Consumer Price Index by M. C. McCracken & E. Ruddick (Catalogue No. EC22- 88/1980E, $3.50 in Canada, $4.20 other countries).

New look at government aid

Government assistance to business in the form of loans and loan guarantees may not be meeting all the objectives Parliament had in mind. And what is more, the general public's perception of some government industrial assistance agencies may not always be borne out by reality.

These are two of the conclusions now emerging from an Economic Council study of government financial intermediaries. Since October 1979, the Council's Financial Markets Group has been looking at federal and provincial government aid to the private sector in the form of credit and credit guarantee programs. An interim report, due out in the next few months, will focus on aid to business, although the group is also looking at assistance to exporters, agriculture and housing.

Project Director André Ryba says that the group's work has been centred around an examination of the government's objectives in developing industrial assistance programs. What are the stated objectives? Do they respond to the needs of the economy? Are the programs effective for meeting the objectives? Could the objectives be achieved in some other way at less cost?

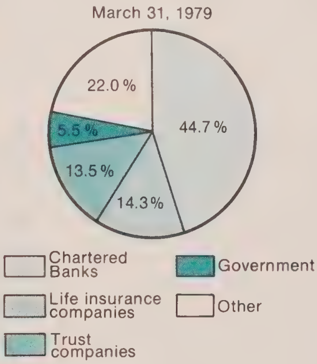
Popular belief seems to support the idea that government industrial assistance should focus on aid to small business, but work in progress at the Council indicates that this may not be the case. Some of the agencies studied gave up to 35 per cent of the number of their loans to firms with annual sales of over $2 million. This is much higher than the proportion of these firms in the Canadian economy. One agency gave 65 per cent of its assistance funds to larger firms and another deployed 85 per cent of its money in this way.

Again, contrary to popular belief, government industrial assistance agencies do not necessarily favour newly-established firms. A comparison between public and private agencies of the same type revealed that close to 27 per cent of loans made by private sector institutions went to new firms, while little more than 20 per cent of loans from public sector agencies went to firms of this type. In dollar terms, less than 10 per cent of all the money handed out by government agencies went to new firms, while most private agencies generally allocated at least 20 per cent of their funds to new businesses. The project economists point out, however, that not all the agencies can be criticized for this because some do not have a legal requirement to help new businesses.

Often the enabling legislation establishing government agencies mentions the goal of job creation and of helping to diversify the industrial structure of the geographical area in which the agency operates, although these may not be the most appropriate objectives for these kinds of agencies to pursue.

Who lends to business?

Distribution of loans to business by financial intermediary



On March 31, 1979, Canada had 23 government financial intermediaries (federal and provincial institutions) offering loans to business, including the Federal Business Development Bank, the Ontario Development Corporation, the Quebec Industrial Development Corporation and the Alberta Opportunity Company. The government also supplies loans directly without creating an agency, for example through the Rural Development Authority in Newfoundland, or through guarantees provided by the federal Department of Industry, Trade and Commerce under the Small Business Loans Act.
Outstanding loans to business from these government intermediaries totalled $5.1 billion, while outstanding loan guarantees provided by the two levels of government amounted to $526 million.

The expectation seems to be that the agency has some industrial development plan to guide it and that it will seek out clients according to the plan's directives. But the researchers have found that this usually does not happen. Agencies just seem to respond to any request that comes in and the loans officers view the requests in much the same way as their colleagues in the private sector. The most important criteria in obtaining a loan from a public agency are the viability of the project and the firm's ability to repay. As well there seems to be little co-ordination between agencies at the same level of government or between agencies from different levels, so that a firm that has been turned down by one agency can always go to another one and try to get assistance. By definition, the researchers say, this frustrates any attempt to diversify industrial structure through such assistance programs.

Lawmakers may be to blame for the haphazard way in which some public agencies operate. Governments often fail to make it clear how the agency is supposed to meet the objectives established for it. Faced with the problem of implementing very vaguely defined objectives while at the same time keeping down the cost to the taxpayers, the directors of these programs and agencies often choose the line of least resistance and work to more easily achieved objectives of their own, such as achieving a maximum growth rate of their assets or loans.

The problem may be further complicated by the fact that when governments check on the progress of their agencies they tend to look at the performance of each individual agency, ignoring the impact of that agency on the total economic picture. An agency may report the total number of jobs created as a result of its loans, for instance, without taking account of the number of jobs that may have disappeared in the same sector or in other sectors of the economy as a result of its activities. It is quite possible, in fact, that the recipient of a loan from one of these agencies may be able to expand operations and create jobs while at the same time forcing unsubsidized firms to reduce their activities or even to go out of business entirely.

The Council's work, says Mr. Ryba, should be able to provide guidance on what the scope of government credit and credit guarantee programs should be, how the objectives could be more clearly defined, and how programs and agencies could meet their objectives most efficiently.

Canadian trade barriers hit hard

There is a fundamental contradiction in relations between developing and developed countries which always crops up when the discussions turn to trade. Developing countries have been pushing to industrialize while developed countries have devoted great efforts to devising the means to keep goods from developing countries outside their frontiers. As Vittorio Corbo and Oli Havrylyshyn point out in a study prepared for the Economic Council of Canada, Canada's behaviour has been true to the norm. Our trade barriers are highest against those countries which produce goods in competition with our domestic suppliers.

Corbo and Havrylyshyn, formerly with Concordia University's Institute of Applied Economic Research, have studied Canada's trade relations with developing countries from both the export and the import sides. They were curious to know if their feelings about the behaviour of markets and governments could be supported by the data. And they wanted to take the analysis further than just a look at tariff levels in comparison to other countries. They wanted to estimate how much more of a product a country could sell to Canada if tariff barriers were eliminated or changed. In other words, domestic demand might be so great that imports of some commodities might be quadrupled if tariffs were removed.

The authors constructed a series of equations, including in their calculations such figures as import elasticities, ratios of imports of a particular commodity from a country to all imports from that country, and similar comparisons on the export side.

The results show that Canada's trade barriers aimed at developing countries are higher than those faced by developed ones. The difference is particularly marked when petroleum imports are taken out of the equations. Different comparisons are made using different lists of goods but the bias does not alter.

Canada's trade with developing countries is not large, perhaps just over two billion dollars a year in the mid-1970s. That is a small sum compared to the tens of billions of dollars worth of goods which move between Canada and the United States annually. But the effects on Canadian industry of specific imports can be dramatic.

The authors broke down their results to study several industrial classifications from up to a dozen regions. What they found was what many people have suspected. Asia faces the strongest barriers to trade with Canada, and that's because Canadian industries face competition from that region's textiles, clothing and shoe production.

In comparison with the level of tariffs imposed by the European Economic Community (EEC), Canada comes off badly, at least at first glance. But the authors point out that countries wishing to trade with the EEC often face many more non-tariff barriers, such as import quotas, which also restrict trade. On balance, they say, EEC barriers to trade may be as strongly biased — or even more so — than those of Canada.

On the export side, Canada's trade performance has not been outstanding,

National Film Board of Canada

Southern Ontario shoe-making

according to the authors. This country's sales to developing countries have been concentrated in three products, wheat, road motor vehicles and paper and paper products. The authors have found that where exports have been growing at all, it's because Canada is selling to countries with growing markets rather than taking a larger share of the market. Price increases have also added to the dollar value of our exports. But in terms of competitiveness, Canada has been losing out.

The slide is particularly obvious on the manufacturing side. By the middle of the last decade manufactured goods made up a smaller proportion of our exports than five years earlier, while sales of raw materials were on the increase. The conclusion is that Canada was unable to compete effectively in the manufacturing area when it comes to sales to developing countries. The one exception seems to be public transit vehicles, but these sales are often tied to external aid programs.

Two other facts emerge from the analysis. Canada has been having difficulty selling in the area which is the fastest growing, that is the manufacturing sector, and many of our exports have gone to developing countries which are not showing the fastest growth.

Developing countries are in a quandary. The authors share some of the views of Steven Langdon (see page 19) on the problems faced by these countries as they try to industrialize. Many have encouraged the growth of domestic industry by themselves setting up high tariff walls. This action has led to higher prices for domestically-produced goods, and has increased the dependence of local industry on imports of raw materials as companies try to keep up production and employment. As a result, developing countries are looking for new markets just as developed countries are slamming the door to protect their own industries.

In Canada's case the restrictive effect on a list of special-interest goods which are usually labour-intensive manufactures is just about double the effect on other imports. Despite that, the authors have found that Asia continues to expand the volume of its exports to Canada.

The authors have made a stab at estimating the effects of various tariff changes. Since the study was completed before an agreement at GATT was reached, the authors looked at 11 hypotheses, and estimated the effects on five different lists of goods. They concluded that the overall adjustment Canada would have to make to higher import levels would not be that large. "It appears that it would cost Canada little and allow the less developed countries to gain much," say the authors. But they point out that it is not the aggregate level of tariff cuts which is important so much as the lists of goods which are used.

Canada's Trade Relations with Developing Countries, by V. Corbo and O. Havrylyshyn, (Catalogue No. EC22-80/1980E, $12.00 in Canada; $14.40 other countries).

Few benefits from direct investment

Canadian investment in the developing countries has generally been regarded as desirable, but direct investment in these countries by Canadian-controlled multinational corporations may not be beneficial either for the developing countries or for Canada itself.

These are the findings of a study, prepared for the Economic Council by Steven Langdon of the Economics Department of Carleton University. And Langdon believes that the government should abandon its policy of encouraging this kind of investment and focus on other aspects of development instead.

Despite the widespread belief that "Canadian" investment in developing countries comes mainly from Canadian subsidiaries of foreign corporations, the study found that Canadian-controlled corporations have become important participants in direct foreign investment and technology marketing in the developing world. Canadian firms now have an important position in the economies of various developing countries.

As multinational companies transfer their technology to the developing countries, they often establish the same import-intensive product range and capital-intensive production techniques they are using elsewhere in their organization, so they generate less employment in the host country than a domestic enterprise would. The dislocating effects of transferring technology in this way can be enormous. The presence of a multinational company can distort the local income structure if higher-than-average wages are paid to a small number of workers. And in countries where many workers cannot find jobs, the introduction of a capital-intensive operation seems particularly inappropriate, says the author.

Langdon's list of problems associated with multinational subsidiaries is a long one. He says countries often buy a complete package with direct investment from a corporation, meaning there are few spin-offs into the local economy. The growth of local entrepreneurs is often hindered and the financial flows out — in the form of dividends, interest and intra-company charges — can be very large.

Between 1970 and 1976, the study shows, there was a fivefold increase in

National Film Board of Canada

Bauxite mining in Jamaica

the investment flows from Canadian-controlled companies to Latin America and the Caribbean. Investment in Asia is growing rapidly and by the middle of the last decade, Canadian-controlled companies had two billion dollars invested abroad.

Much of the expansion undertaken from Canada has been carried out by mining, smelting and petroleum companies, but utilities and finance corporations are also active. Langdon is of the opinion that these investments can harm Canada as much as they can harm the developing countries. By setting up production facilities overseas, the Canadian company may be reducing employment opportunities for Canadian workers who would otherwise be producing for export to these countries. Resource export prices may also be depressed and resource exports curtailed, but research work in this area has so far been sporadic and Langdon says more study is needed to determine what effects foreign investment in developing countries has on employment levels and the balance of payments of the home country.

Canadian-controlled multinationals have switched some of their resource investments to the developing countries, says Langdon, and this has "almost certainly come at the expense of domestic investments in resource processing and manufacturing that would have generated wide social benefits for Canadians." In the continuing argument between governments and the resource corporations about how resource earnings should be divided, the resource companies can then play off different options against the government authorities in Canada to get a larger share of the windfall profits generated in this country, says Langdon.

Canada's policy strongly favours direct investment in developing countries, although, Langdon says, "it is based on quite limited information and even less public scrutiny." Canada's role in the current "North-South" dialogue reflects an expressed commitment that economic growth should benefit the poorest segments of the population in developing countries. But the findings of this study indicate that hopes of achieving this aim through direct investment by Canadian companies may be misplaced. Given the growing efforts of developing countries to seek alternatives to foreign direct investment, Langdon believes that Canadian policy should try to find different ways in which technology can be transferred to Third World countries. It could be done through government agencies such as the National Research Council, for example, or through non-governmental agencies like the universities, co-operatives or Oxfam.

He also suggests an extension of the government insurance guarantees program, with an independent public agency, other than the Export Development Corporation, being given a mandate "to assess investment projects carefully and fairly from a Canadian and developing-country perspective, rather than a mandate to expand Canadian exports."

Rather than spending CIDA money to promote direct investment ties, he says, the money could be spent to encourage the growth of Canadian trading companies active in the developing countries. Studies show that such trading companies may establish local manufacturing firms which forge more links with the local economy and are freer to buy expertise and machinery where they want rather than from parent companies.

Finally, says Langdon, the Canadian government should abandon its public policy stance of encouragement for increased Canadian direct investment in developing countries and adopt a position of "strict agnosticism" on the matter.

Canadian Private Direct Investment and Technology Marketing in Developing Countries, by S. W. Langdon (Catalogue No. EC22-82/1980E; $8.95 in Canada, $10.75 other countries).

au courant

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The magazine contains reports on publications representing the views of the Council itself, and on research monographs and papers prepared for the use of the Council by members of its staff and by others. In the latter cases, the views and conclusions are, of course, those of the authors; neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

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au courant

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Volume 2, No 1 1981

Spring update on the economy

Reforming Regulation

Federal-provincial fiscal agreements

Reverse mortgages may help pensioners

PUBLICATIONS

The Economic Council has recently published a major report on regulation, reflecting the viewpoint of the Council and making policy recommendations. The report is available in both official languages.

Reforming Regulation (EC22-93/1981E; $9.95 in Canada, $11.95 elsewhere).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research studies have been published since the last issue of *Au Courant*.

Empirical Testing on Newfoundland Data of a Theory of Regional Disparities, *by Neil M. Swan and Paul J. E. Kovacs* (EC22-92/1980E, $4.95 in Canada, $5.95 elsewhere).

The Trees behind the Shore: The Forests and Forest Industries in Newfoundland and Labrador, *by John A. Gray* (EC22-91/1980E, $9.95 in Canada, $11.95 elsewhere).

Discussion Papers

Discussion Papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 188 'Reverse Mortgages: A New Class of Financial Instruments for the Elderly,' *by Henry Bartel and Michael J. Daly*.

No. 189 'The Economic Implications of Migration to Newfoundland,' *by R. W. Boadway and A. G. Green*.

No. 190 'Cost and Production in the Newfoundland Fish Products Industry,' *by Noel Roy, William E. Schrank and Eugene Tsoa*.

No. 191 'Productivity, Transfers and Employment; Government Policies and the Newfoundland Economy,' *by Frank R. Flatters, in collaboration with Robin Boadway, Russell Krelove and Patricia Smith*.

No. 192 'The Effect of Provincial Borrowings from Universal Pension Plans on Provincial and Municipal Government Finance,' *by Keith Patterson*.

No. 193 'Macroeconomic Effects of Demographic Variables: Evidence from CANDIDE Model 2.0,' *by P. Someshwar Rao*.

No. 194 'Factor Prices and Labour Productivity,' *by P. Someshwar Rao*.

No. 195 'Simulating Some Income Supplementation Plans for Newfoundland,' *by Richard C. Zuker*.

No. 196 'Economic Theories for Small Marine Economies: An Interpretation for Newfoundland,' *by Lawrence W. Copithorne*.

No. 197 'Revenue Implications of Offshore Oil Under Different Taxation and Profit-Sharing Regimes: The Case of Hibernia,' *by Jonathan Wilby*.

No. 198 'An Exploration of Crude Petroleum Self-Sufficiency in Alternative Canadian Demand Environments,' *by Bobbi Cain and H. M. Saiyed, assisted by P. Nevin and M. Willis*.

No. 201 'Westward Shift and Interregional Adjustment: A Preliminary Assessment,' *by K. H. Norrie and M. B. Percy*.

How to order

Both the consensus report and research studies listed above are available across Canada from bookstores where Government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

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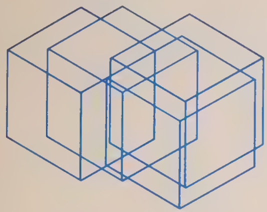
au courant

Volume 2, No1 1981

Regulation: the final report



Results of the Council's three-year study of government regulation of the economy are highlighted:

There have been quite a few changes in the world since the Council made some basic economic projections for the next decade in its 1980 annual review. Council economists have taken another look, and with the help of the CANDIDE econometric model, have come up with some new projections to 1990.

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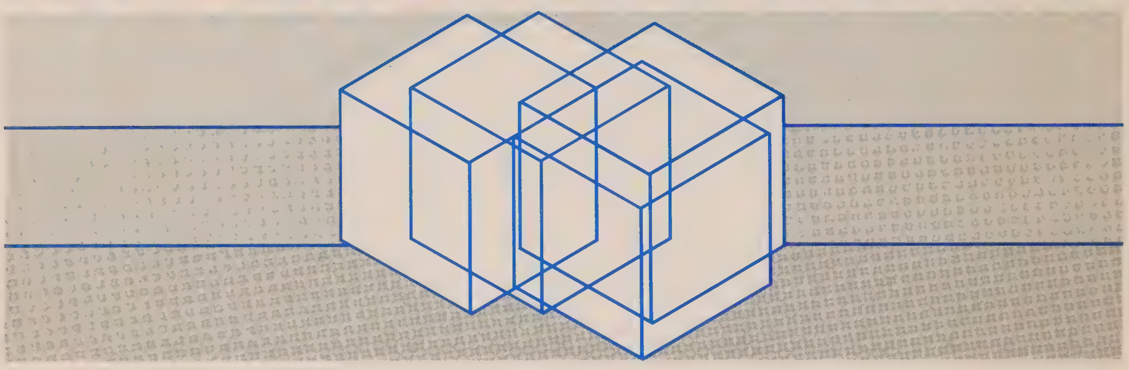
REFORMING REGULATION



There's no doubt that government regulation of the economy has flourished of recent years. So much so that many people in the business community believe that the whole thing is now quite out of hand. It was concern about how regulation was affecting Canadian business that prompted the federal government to refer the question to the Economic Council for study.

There seems to be no simple pattern to the way the system of regulation has developed in this country, but there are some things that stand out. Government regulations, says the Economic Council, are often "responses to perceived needs that the market itself has failed to fulfil."

Sometimes, when it was felt that some generally accepted objective would not be achieved unless the government got involved, there was pressure for regulation. "Protecting the public interest" it was called. Making sure that individuals are not defrauded, that the health of workers is not threatened and that consumers are protected all fall into this category. But the perception of what the "public interest" is, has been strongly influenced by the views of specific groups in society. "The fact that the costs of many regulatory initiatives are widely diffused among consumers has no doubt softened a good deal of opposition," the Council says.

Often the pressure for regulation comes from particular groups who want their activities to be protected. The substantial influence of these narrowly based groups – trade associations, farm groups, organized labour – has contributed significantly to the way the regulatory system has developed.

Groups representing broader interests, like consumers and environmentalists, are potentially influential too. But by and large they have not been able to muster enough continuing support to remain a strong force in most public policy debates. And they are hampered because they don't have much information about the effects of regulation.

Eventually, though, many regulations tend to outlive their usefulness. The conditions that led to their introduction may no longer exist or even if they do, there may be new and more pressing demands on the economy's scarce resources. Clearly, says the Economic Council, much regulation has been introduced for the express purposes of protecting an industry from competition, either from within or outside its own ranks, and this may not always be in the general interest.

It's our impression, says the Council, that "the increasing complexity of the regulatory maze and the sheer physical constraints on legislators' time are overloading governments and control agencies well beyond their limits." Many highly regulated markets are probably no longer operating efficiently as a result.

Sweeping deregulation is not necessarily the answer. What needs to be done is to make regulation less attractive, or alternatively to make it much more difficult. "While we recognize the need for regulation," says the Council, "our approach is to favour individual choice and non-coercive exchanges that are part of the market process."

The Council's report on regulation is intended to raise the level of public consciousness about regulation and to put forward recommendations that reflect broad as well as more immediate interests.

On the following pages, some of the main findings and recommendations of that report are featured.

Agricultural marketing boards

Agricultural marketing boards represent one form of regulatory activity that touches the lives of just about every Canadian. But despite considerable public criticism of the boards, the Economic Council says that most marketing boards have managed some "very positive accomplishments." They have helped to improve the overall economic lot of Canadian farmers, which is really what they set out to do. And if there is criticism against them, says the Council, it is often because they are too successful in doing exactly what they were supposed to do, that is to provide greater bargaining power and income security for their members.

Those marketing boards aimed at getting better return for farmers by strengthening their bargaining power have generally benefitted both the producers and society as a whole, because markets function better and quality is controlled. The various provincial hog boards, the fruit and vegetable boards and the Canadian Wheat Board all came under scrutiny as part of the Council's study of regulation. As with many other institutions, there are no doubt ways in which their operations could be improved, says the Council. But generally speaking, it endorses their activities and sees no need to recommend any radical changes in their mandates.

When it comes to supply management boards, though, the situation is rather different. These marketing boards, such as the ones that control the dairy industry and the marketing of eggs and chickens, have been effective in increasing the incomes of their members, but it has been "at some cost to society" the Council says.

Supply management marketing boards have the power to set prices and allocate production quotas and their activities are re-inforced by strict import controls. This particular way of redistributing incomes is one that appeals to legislators because it doesn't seem to cost the government or the taxpayers anything. The farmers' sales are guaranteed up to their quota limits and representatives of the farmers run their own boards. But these advantages are more than offset by the fact that consumers have to pay considerably higher prices and production, distribution and consumption are not as efficient as they could be.

So important are these disadvantages that the Council says it has "considerable difficulty in justifying the continued existence" of supply management marketing boards, with exclusive powers to determine prices and set production quotas for individual producers – particularly "when these powers essentially establish a cartel and are buttressed by import controls."

Although only a few commodities are subject to regulation by this type of board, they represent a big part of the food spending of Canadians. Eggs, turkeys, chickens, tobacco and milk are all subject to both import controls and supply management and they "continue to be a favoured instrument of intervention," says the Council.

Although it believes the powers of the supply management boards should be curbed, farmers who bought their quotas in good faith on the assumption that present policies would continue might suffer hardship if the powers of the boards were abolished outright. So the Council says that instead, domestic supply should be gradually expanded. Production quotas should be increased over a five-to-ten-year period so that quota values fall to more reasonable levels.

Accountability of the marketing boards is vital if they are to remain an instrument of responsible regulation in the agricultural sector. But the Council says it decided not to recommend altering the existing mandate or composition of individual commodity boards. "Farmers have fought hard to obtain a degree of control over the effects of economic conditions and a radical change might undermine their confidence in such boards," says the Council. Instead, the composition and procedures of the supervisory boards could be changed and governments should review the membership of their agricultural supervisory boards to make sure that there is an adequate balance of producer, consumer and processor representation.

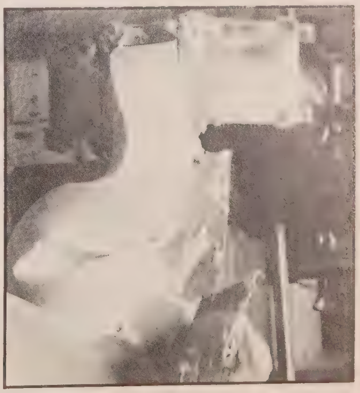
Dairy policy expensive

There is no question that regulation of the dairy industry is expensive. Council estimates indicate that more than $200 million a year is lost because of inefficiencies in the federal government's industrial milk program. Even assuming import controls on dairy products are retained, the present dairy policy reduces national income by over $140 million a year. And these are only the measured costs of inefficiency.

There are other costs which can't be measured, but which are probably just as great – inefficient arbitrary allocation of industrial milk production, for example, the lack of energetic new talent entering the dairy industry, and the incentive farmers have to breed dairy cows to produce the maximum butterfat and the minimum milk protein, despite what good nutritional practice would dictate.

At the levels of processing, distribution and retailing there are more inefficiencies in the way milk is allocated to processing plants. Competition is reduced and there are price distortions in the processing of butter.

The income transfers inherent in the program are huge. Producers benefit by over $670 million; consumers lose by about that amount; and taxpayers incur a loss of over $300 million. If anything, the Council says, these figures probably understate the transfers and real costs of the present dairy supply management system.



Maureen O'Brien

Buttering up consumers

Regulation of airlines should be phased out

Regulation of the air transport industry should be phased out over the next four years. The process has already begun and judging by experience in the United States, it could continue without any serious problems until direct regulation of airlines is no more.

After more than 40 years of regulation, government policy on air transportation has achieved many of its objectives, says the Economic Council, and now it's time to let the industry stand on its own. The Council's report lists a number of benefits that could result if price and entry controls on the Canadian airline industry were loosened:

- passengers would have a wider choice of fares and quality of service, which would be provided more efficiently;

- fares would probably drop on the high-volume routes because passengers would be willing to accept lower quality service;

- airlines could operate more efficiently because they would use more appropriate equipment for each route;

- new carriers entering the industry, or even the threat of them doing so, would bring fares in line with the cost of producing the services;

- carriers now have to bear the cost of regulation and delays in getting price and route authorization. Deregulation could reduce and eventually eliminate these costs.

Deregulation of airlines in the United States was greeted with some apprehension. But fears that there would be massive reductions in service and routes and that a large number of stations would close down right away proved to be groundless. There were far fewer closures than had been predicted and over many of the low-density, short-haul routes, service improved as the commuter carriers entered the market.

There were some adjustments to be made, though, and some communities now get a much reduced service from carriers operating slower and less advanced equipment. But two years of operating under a system in which there has been almost complete removal of entry restrictions has not brought about the predicted "destructive competition." When fares dropped, the airlines met the challenge by improving productivity. They introduced flights with higher density seating and bigger load factors, and better productivity helped them limit the general fare increases that sharply increased oil prices might have brought in 1979 and 1980.

Even though there are some significant differences in the way airlines have developed in Canada, the Council believes that deregulation of the industry here could bring many of the same benefits.

In the past, while the government protected Air Canada from competition, the publicly owned airline was expected to provide services that privately owned carriers might have been unwilling to provide. Deregulation might mean that Air Canada would drop some unprofitable runs, especially in the Atlantic region and in northern Quebec and Ontario. The question is, would the routes then be taken up by regional and local carriers operating with more appropriate aircraft and service?

If the U.S. experience is any guide, the chances are that they would. But if not, the Council says, consideration should be given to instituting direct subsidies to make sure that isolated settlements continue to receive service.

Opening up entry to the industry is the core of a less restrictive approach to regulation, according to the Economic Council. It proposes what it calls a "one-way swinging gate" approach to freer entry. Any new or existing regional or local airline could enter any market now served by CP Air or Air Canada, but the two major airlines would not be allowed to go into domestic routes now served by regional or local carriers. Each of the two national airlines would be free to compete on any domestic route now served by the other.

The Council says that more competition on transborder and international routes is just as desirable as it is on domestic routes. Where there are bilateral agreements allowing only one Canadian carrier on an international route, then all Canadian carriers should be allowed to bid for that route, it says.

On charter flights, the Council says that the regulations governing both domestic and international charter flights have been "unnecessarily restrictive." As some of the restrictions on charter flights have been removed, the regular-fare passengers have not been diverted, in fact new passengers have been attracted to air travel. It recommends that regulations on domestic and international charter operations should be eased so there is as much competition as possible between charter and scheduled carriers. In particular, minimum stay and advance-booking requirements should be reduced and the intermingling of various types of charter groups should be permitted.

The Council says that the larger and stronger airlines should not be allowed to use the power of their inherited position to limit the competitive initiatives of others. A tough stand should be taken against airline mergers and the Combines Investigation Act should include a clause to prevent predatory behaviour from airlines. Although the Council does not expect that excessive scheduling or predatory or discriminatory pricing will really be widespread, it says it's just as well to be forearmed.

The Council says its recommendations provide a "pragmatic basis" for the transition to a position of total deregulation over a period of about four years. Before the final steps are taken, however, there should be an assessment of the industry's performance under less restrictive regulations. It could be that more time will be needed to make the adjustment to greater reliance on market forces.

Removal of regulation is not going to solve all the problems of air transportation in Canada, but a more competitive and less protective environment will help the nation's air transportation system adapt to changing requirements and transportation modes of future generations.

How business is affected

One of the main reasons for the request that the Economic Council undertake a study of regulation was the mounting concern that a proliferation of government regulations was hurting business and threatening the efficiency of Canadian firms.

Business itself tends to view regulation as part of a massive problem of government intervention. There was a feeling that legislators who dream up regulations and the bureaucrats who administer them often don't recognize the impact they are having on the private sector. Overlapping jurisdictions, both between different levels of government and between different agencies at the same level, could be adding to costs and creating uncertainty.

In an effort to see how regulation affects business costs and the ability of firms to produce efficiently and compete successfully, the Council decided to document the complaints about regulation and the regulatory process by surveying some of Canada's biggest corporations as well as small businesses. The strongest message to come out of the various case studies and interviews was that what business really objected to was not so much the regulations themselves but the way in which they were introduced, communicated and applied.

Cutting through the red tape, coping with delays and dealing with several different agencies all of which have different standards were common experiences of both small and large businesses.

There was the case of the Magnorth/Norlands/BP oil exploration consortium, for instance, which applied for permission to drill in the high Arctic. Environmental studies were followed by requests for yet more studies. Ministers and senior officials changed several times, and each time there was a change, priorities were shifted and policy changed direction.

Several different federal departments were involved and each one seemed to have its own idea of what constituted an acceptable trade-off between energy resource development and protection of the environment. After almost seven years, the issue is still not solved.

Grissol Foods said that the switch to metric and tighter net weight regulations forced it to alter its packaging installations and format at a cost of well over a million dollars over the subsequent five years.

The regulators and the regulated seem to regard each other with a good deal of suspicion. Corporate executives accused the regulatory agencies of being too stringent, of setting unrealistic precautionary standards, of dictating engineering requirements to reach those standards and of refusing to consider other ways of compliance that would not cost as much.

Regulators, for their part, often looked sceptically at the information supplied by a firm. They insisted on checking, double-checking and modifying engineering and architectural plans, adding to costs and causing delays. In one documented case, three regulatory agencies were involved and they couldn't agree on what constituted a satisfactory waste disposal system. The company had to design a totally new one to accommodate all their different requirements.

In spite of all the problems, though, the Council says that big companies, especially those in industries producing mainly for the domestic market if there is a high degree of corporate concentration, are experienced in adapting their operations to meet regulatory requirements and manage to pass on the costs either by increasing their prices or by absorbing them in their operations as part of the cost of doing business.

The biggest problems for small businesses seemed to be the amount of paperwork associated with taxation, statistics and customs and excise requirements. Most of their difficulties with regulation involved things like zoning, planning, building codes, transportation and labour standards. Here again, the conclusion was that "government regulations are not killing small business" but there is quite a bit of room for improvement in the way regulations are implemented.

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Many business people agreed with the objectives and the need for regulations and the Council says that although it deliberately focused on the costs of regulation, it did not discount the social and other benefits that accrue from the compliance action of forms. The reason for looking specifically at costs was to get a feeling for how regulatory processes affect the competitive ability of Canadian business.

Overlapping regulatory jurisdictions, duplication and inconsistency may all have their costs—especially when there have to be long drawn-out negotiations between departments or governments, and companies are caught in the middle, bearing the brunt of the costly delays. Higher prices to consumers and poorer overall business performance may result.

But some of these problems will not be easy to solve. The biggest cause of them may be the Canadian political system itself. "If Canadians were subject only to a single government," the Council says, "many of these problems would disappear or at least be modified."

Given the realities of the Canadian federal system, however, some progress has been made in resolving some of the jurisdictional conflicts, particularly in the areas of food processing, distribution, retailing, trucking and agriculture. But in other areas like telecommunications, environment, and consumer products, it seems to be more difficult to come to some agreement. In some cases, the Council says, "difficulties in reaching an accord have been exacerbated by the quite different political positions taken by the provinces and by the federal government."

All in all, though, the Council says it is "heartened by the extent to which government departments and agencies have been successful in putting their houses in order." There are, however, two broad areas where the Council believes improvements in the regulatory process might be forthcoming. The first involves regulations that have been in effect for some time. What's needed here is a better understanding of the procedures by business. Governments should codify and publicize the major steps in the regulatory process.

The second area concerns newer regulations such as those on the environment. Companies which are developing large projects often have to deal with regulations "where the knowledge of environmental consequences is far from complete; the appropriateness of established regulations unsure; and public acceptance perhaps ill-defined." There may be several jurisdictions and departments involved and business often sees itself at the mercy of alternative regulating agencies with no clear line of responsibility and accountability to which it can appeal.

Where federal and provincial jurisdictions both have a responsibility for a single product or development project, the Council says they should explore the feasibility of designating one department as co-ordinator for all regulations relating to it.

Finally, the Council says that although it might now seem like a good idea to start dismantling some of the restrictions in the more traditional areas of direct regulation, "the cumulative evidence available to the Council does not support the view that regulation in the areas of consumer protection, environment and occupational health and safety is excessive." By and large, the cost of regulation in these fields does not seem to be out of line with the benefits that regulation brings.

The finding seems to run counter to some of the misgivings now being expressed in the U.S. about the cost of this type of social regulation. But the Council says that there are important historical, political and institutional differences between Canada and the United States and the concern of U.S. business that the private costs of many newly adopted environmental, occupational and consumer protection regulations far outweigh the benefits "is at best unproven for Canada."

Based on this perspective, the Council rejected proposals that would arbitrarily set limits on the introduction of new regulations. It does not favour the idea of a "regulatory budget" which would allocate government departments an annual limit representing the maximum regulatory costs they could impose on the economy. Besides the obvious practical difficulties of implementing such a proposal, the Council says, it could run directly counter to efficiency objectives.

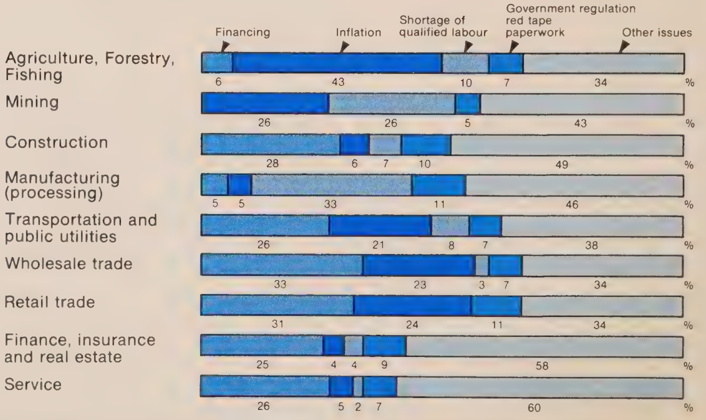
Nevertheless, the Council urged legislators to be careful, when they introduce new regulations, that the benefits will outweigh the costs they impose. And it says that "policies are certainly needed to make the compliance costs incurred by the private sector more visible and to give all concerned groups a stronger role in the regulation-making process."

The biggest problem for small business

The Canadian Federation of Independent Businesses surveyed its members to see what they felt were the most important problems they faced.

Percentage of respondents who specified:

(Fourth quarter 1979 and first quarter 1980)



Architects, dentists, doctors . . .

People who use the services of doctors and dentists, lawyers and pharmacists, architects and chartered accountants, are entitled to protection against incompetence or fraud. In fact protection of the public, and the maintenance of standards of quality are generally used to justify occupational regulation. But the Council says that the evidence it has gathered suggests that "a number of regulatory restrictions are imposing costs in excess of the benefits provided."

"The most restrictive form of all occupational regulation" seems to be that imposed by those who engage in trades or occupations under a specific title. These professions have drawn up their own code of rules governing a whole range of activities, from entrance qualifications to standards of members' behaviour, in order, they say, to provide the public with expert, top-quality service. And also, incidentally, to limit the use of the specific title, like chartered accountant, dentist, architect and so on, to those whom the professional association decides meet the standards.

It is true, the Council says, that when health and safety are at stake, consumers almost universally favour a high standard of performance. But professions tend to use this rationale to explain away restrictions that in no way contribute to high-quality service. Hardest to justify, in the Council's opinion, are the regulations that bar professionals from setting their own prices, advertising their services and operating at maximum efficiency.

"We are concerned with these restrictions" the Council says, "not because they can lead to higher incomes for certain groups in society – though many would find this method of redistribution highly objectionable – but because they contribute to waste and inefficiency."

Prohibitions on advertising of prices or services, and the so-called "fee-guides" put out by some associations hinder competition and keep the cost of professional services high, the Council says.

So does the refusal of many associations to allow anyone but "peak professionals" to do the work, although more use of skilled practitioners like denturists and dental assistants, law clerks, and medical and engineering technicians would increase productivity and lower costs, in the Council's opinion.

"There is considerable scope to make regulation more effective and less costly" the Council concludes. It recommends:

- tighter government control over occupational associations, through the establishment of Occupational Regulation Commissions by each province and the federal government;

- government efforts to increase the number of properly trained occupational groups that could compete in certain professional areas;

- a move by provincial governments to outlaw unnecessary restrictions on price-setting and advertising, if this can't be done through the Combines Investigation Act.

. . . and pharmacists

Prescription drugs would be cheaper if pharmacists had to compete for the consumer's dollar, says a paper written for the Council's study on regulation.

Council economist Paul Gorecki finds that government measures to increase competition in the manufacture of prescription drugs have brought prices down considerably in most provinces.

But retail prices would drop even further, he says, if the provinces made sure that pharmacists dispensed the lowest-priced drug brands, and if they had to tell their customers how much they charge for filling a prescription – a fee that can double consumer costs.

Amendment of the Patent Act by Parliament in 1969 allowed companies without a patent, to import, manufacture and sell patented drugs under a different brand name. To give this amendment teeth at the retail level, the provinces introduced measures too – for example, one permitting pharmacists to select lower priced brands instead of more expensive ones.

As a result, prescription drugs became cheaper across the country. But not all provinces were affected equally. How much prescription drug prices fell in each province depended on the effectiveness of measures to make sure that pharmacists' savings were passed on to the consumer.

In Saskatchewan, for example, consumers have fared very well, because pharmacists there are required to buy drugs from suppliers who have to submit tenders to the provincial government.

On the other hand, they did not gain very much in Quebec, because that province has not taken a tough enough stand with the pharmacists, Gorecki says. In some cases, Quebec pharmacists are marking up prescription drugs by several hundred per cent, he found, a practice made possible by ineffective restrictions on the pharmacists' freedom to choose products and by weaknesses in the province's drug reimbursement plan. Similar mark-up problems also occurred in Ontario.

Gorecki recommends that provinces act to bring down prescription drug prices more by such measures as

- allowing consumers to know what these drugs cost, and what pharmacists are charging to fill prescriptions. This would make pharmacists themselves more competitive, leading to price cuts;

- requiring pharmacists to use the cheapest brands (unless the physician specifically directs otherwise);

- providing doctors with information on interchangeable drug brands, and the range of drug prices, so that they do not prescribe expensive brands.

"Regulating the Price of Prescription Drugs in Canada: Compulsory Licensing, Product Selection and Government Reimbursement Programmes," by P. K. Gorecki. Technical Report No. 8.

Communications revolution

It used to be that regulating telecommunications was relatively simple. The "telecommunications industry" meant the telephone and telegraph systems and making sure that even those in remote parts of the country got decent telephone service was an important concern of regulators.

Over the past 15 or 20 years, technological change in the industry has been nothing short of revolutionary. Now messages and information can be moved in a myriad of ways, including cable systems and satellites. Telecommunications technology, from silicone chips to fibre optics, has raised the possibility of all kinds of services – electronic funds transfers, electronic newspapers, information services like teletext, communicating word processors and electronic mail are among them.

Regulation based on the technological imperative of the telephone and telegraph systems now no longer seems appropriate and policy-makers have already started to make changes in the way telecommunications are regulated.

The main rationale for much of the regulation in the industry to date has been the belief that the economies of scale that are possible in telecommunications are so large that the industry constitutes a "natural monopoly." Although research in the area is inconclusive, it suggests that these economies are neither as large nor as pervasive as might be expected. Besides which, says the Economic Council, "The development of electronic and digital technology has opened a vast range of new opportunities and in the process, undermined the assumptions supporting the exclusive role of the telephone companies in telecommunications."

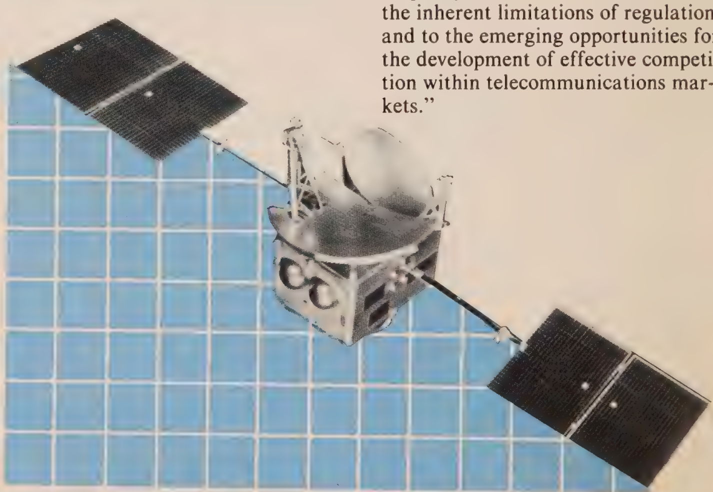
Under discussion now are a whole range of new and complex issues:

- Cable television systems, usually thought of as extensions of broadcasting and regulated under the Broadcasting Act, are becoming an increasingly important part of the telecommunications industry. But regulatory policy has not kept pace with the new developments and so it does not distinguish between the broadcast activities of the cable companies and their other functions. Non-broadcast activities have not been subject to the same obligations and controls that other carriers in the business have to face.

- Distinctions between federal and provincial jurisdiction in telecommunications are blurred and the cable sector in particular has provoked some very heated jurisdictional squabbles. There was a time, recently, when Quebec cable operators were being regulated by both the Canadian Radio-television and Telecommunications Commission (CRTC) and the Régie des services publics.

- While an argument could have been made that the telephone company was a "natural monopoly" when its business was mainly telephones, that argument is not as convincing now that telecommunications involves so much more. "In the new electronic age," says the Economic Council, "technological expertise no longer remains the exclusive province of incumbent telephone companies."

- Even in the provision of basic public telephone service, new developments could soon challenge the basis for regulation. Recent developments in the United States, for example, have already produced an alternative to the local telephone network as a link to long distance. One company is bypassing the telephone company's local service by beaming messages directly to small two-way earth stations on site at a limited number of locations. Future developments in mobile telephones, fibre optics and coaxial cables could lead to new and important sources of potential competition to local telephone loops.



Although Bell Canada claims that there are economies of technological innovation and that the monopoly firm has more incentive and more capacity for innovation than a competitive firm would, the consensus among economists now seems to be that a bit more competition would help. It could be that some of the new technology would have been introduced earlier if there had been more competition in the industry. And the CRTC has noted that services like Dataroute, Infodat, Datapac and Infoswitch "have at least in part been spurred by competition between Bell and CNCP."

In any event, the Council says that "it appears to us that outside basic telephone service a case has not been established for restrictions on competition." It recommends ways in which competition could be encouraged.

Finally, the Council says, it is not attempting to draw a "precise and rigid boundary line between the areas where competition and regulation should prevail." There has to be flexibility. "For the longer term, what is important is that decisions be made within an overall policy framework that is sensitive to the inherent limitations of regulation and to the emerging opportunities for the development of effective competition within telecommunications markets."

Occupational health and safety

The worker's right to refuse hazardous work, without risk of reprisal, and to be informed of potential hazards should be extended across the country, says the Economic Council of Canada.

These are among the recommendations contained in the chapter on occupational health and safety of the Council's study on government regulation.

The Council concludes that federal and provincial regulations in this field serve an essential function. Its recommendations are aimed at improving existing regulation, with a view to reducing human suffering and improving economic efficiency.

Industrial accidents kill over 1,000 workers per year. About 90 per cent of the deaths are the result of injuries caused by "collisions, cave-ins, falls or moving equipment." The remainder are attributable to occupationally derived illnesses. The economic costs of disabling injuries is the loss of 12 million person-days per year.

Federal and provincial regulations should be improved to stress prevention, the Council says. Thus workers should not only be ensured of the right to refuse hazardous work but should be given all the information necessary to decide if a particular task or a substance present in the work place poses significant hazard.

The Council supports the use of joint labour-management committees "with functional authority" to guarantee the safety of workers.

The provision of information is vital, the report states, since without it workers cannot exercise their right of free choice. The report provides a grim example: "A worker cannot try black lung disease for a week or so in order to discover whether he really thinks that it is worth the risk of becoming a coal miner. Having once been contracted, the disease will be with him for the rest of his (shortened) life."

Federal responsibility for regulation of occupational health and safety is mostly covered by the Canada Labour Code. The Council supports efforts to strengthen the code and recommends the development by both the federal and provincial governments of a set of national standards for occupational health and safety that will apply across the country, as is now the case with standards for environmental matters and in the areas of food and drug administration or hazardous products.

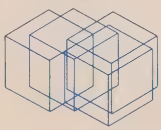
Most regulations affecting occupational health and safety are the responsibility of provincial governments. Provincial regulations vary in meeting the Council's criteria for worker protection. The Saskatchewan system is taken as a model. It is based on the theory that "the work place, not the workers, is the central issue of health and safety and that the vast majority of accidents occur because of inherently hazardous work situations."

Ontario, Québec and New Brunswick have regulations that guarantee the right to refuse hazardous work and that ensure management-labour participation in the prevention of injury or illnesses.

Regulations in Alberta operate on the principle of "voluntary enforcement." The right of refusal to work in Alberta is conditional on "imminent danger," which must be proved by the employee.

In British Columbia workers can refuse unsafe work defined as "not normal for that occupation" but there is no formal redress against subsequent punitive action by employers.

But even the greatest attention to prevention will not stop all industrial accidents and illnesses. The Council therefore recommends that existing systems of workers' compensation be expanded in order to have universal application. There is also a need for more inspectors and stricter enforcement of regulations at both the federal and the provincial levels, the report concludes.



Some guidelines for policy

Regulatory reform is not for the cynical or the faint-hearted, says the Economic Council of Canada. Although deregulation finds favour in some quarters, most of the pressure is in the other direction. "The momentum towards more regulation is very powerful," says the Council in the concluding chapter of its report.

Canada has an immense network of economic regulation and it has been difficult to get much support for changing it – mainly because the public hasn't understood the nature and the consequences of regulation. The Council is hoping that its report will go some way toward changing that.

Here are the Council's conclusions and guidelines for the three main areas of regulation:

- Direct regulation has resulted in "a substantial waste of economic resources and reduced the dynamism and innovation in several important sectors of the Canadian economy." The problem is that once direct regulations have been implemented people have a vested interest in continuing them.

In markets where competition can work, direct regulation is not in the public interest. Transportation, some parts of telecommunications and agriculture are all candidates for reform. The market itself is the best control mechanism and ultimately the Bureau of Competition Policy should be responsible for policing the marketplace.

- In the case of common property resources, like the environment and commercial fisheries, reform means more effective regulation rather than less regulation. Marketable rights to catch fish are recommended, and financial incentives for companies to control environmental pollution.

- Changes in the areas of social regulations, like those dealing with occupational health and professional occupations, should involve a more sensitive balancing of costs against benefits.

SPRING U

The material on these four pages is based on the work of the Economic Council's Performance and Outlook Group and has been published in the form of a paper "The Medium-Term Outlook: Spring 1981 Reassessment," by R. S. Preston, C. Braithwaite, B. Cain, B. L. Eyford, B. K. Lodh, P. S. Rao, H. M. Saiyed and M. Willis.

The outlook for the Canadian economy seems to be somewhat brighter now than it was when the Economic Council published its Seventeenth Annual Review in the fall of last year. Economists with the Council's Performance and Outlook Group have taken another look at the indicators with the help of the CANDIDE econometric model. Their conclusion is that over the next three years, the performance of the economy will be a bit better than they had expected. But they are now projecting much higher inflation rates than before.

The improvement stems from a stronger recovery in the United States this year, as well as slightly higher consumer spending and a different pattern for the movement of business inventories. Gross National Expenditure (GNE) – the economy's total demand for goods and services – is now expected to increase by 2.9 per cent this year, after allowing for inflation. The increase in this major indicator is projected at 3.0 per cent next year and 4.0 per cent for 1983. Previous projections had real GNE increasing by 1.4 per cent in 1981, 3.1 per cent in 1982 and 3.5 per cent in 1983.

The basic projections (used as a reference point to try out various policy options and scenarios) in the Council's Seventeenth Annual Review, produced before the details of the budget were made public, were made on the expectation that policies in effect at the beginning of October, 1980 would continue. They assumed that scheduled major energy projects would go ahead, that the wellhead price of crude oil would rise by $4 a barrel each year from 1981 onwards, and that the international economic picture would be very gloomy.

Since the Review was published, quite a lot has changed. A new President has taken office in the United States with an economic program that has affected the prognosis for the U.S. economy; in Canada, the federal government has brought down a budget, and introduced the National Energy Program, prompting Alberta to react by cutting oil production; and the publication of the National Accounts data for 1980 showed that the Canadian economy finished the year on a strong note.

For these and other reasons, the prospects for the Canadian economy have changed since last fall. The Spring 1981 Reassessment is based on a number of assumptions:

- The U.S. economy will experience a mild recovery in 1981, with longer-term growth averaging three per cent a year, after allowing for inflation.
- Based on the National Energy Program, the domestic wellhead price for crude oil will reach $65 a barrel by 1990, with world oil prices climbing to $99 a barrel (delivered at Montreal) by then. The "blended domestic price" – the one consumers have to pay – which includes the domestic wellhead price, transportation costs, and a petroleum compensation charge, will reach $79 a barrel by the end of the decade.
- Uncertainty over the energy program and oil pricing will delay the start of the Alsands and Cold Lake oilsands projects until 1983, but pipeline projects will go ahead as envisaged in the previous projections.
- Government financing of federal-provincial established programs will increase in proportion to the growth in nominal GNE.

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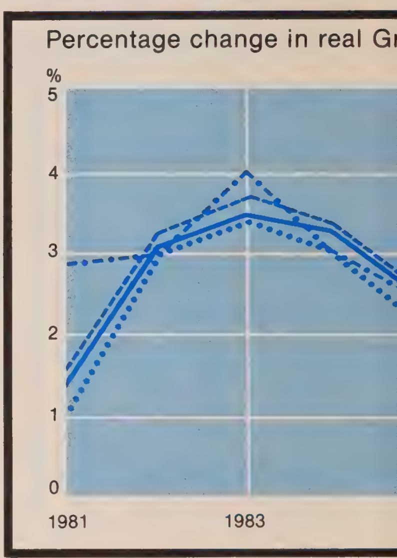

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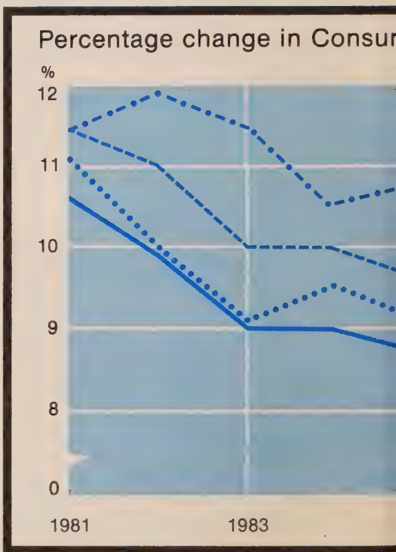

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Council economists now project a moderate recovery for the Canadian economy over the next three years. The chart shows projections for real Gross National Expenditure (GNE), representing the total level of demand in the economy for goods and services. The projections only hold good if there is no change in existing policies and they do not take into account investment projects in the latter part of the decade now only in the planning stages.

Earlier projections, made for the Seventeenth Annual Review, indicated a more modest start to the decade with real GNE increasing by 1.4 per cent in 1981, rising to a 3.5 per cent growth rate in 1983 and levelling off after that, with the lowest rate of growth showing up at 2.2 per cent in 1989.

In this Spring 1981 reassessment of the economy's medium-term prospects, the goods and services produced by the economy are shared out like this:

- Investment, after allowing for inflation, is expected to rise from about 23 per cent of GNE this year to reach a peak of 26.4 per cent of GNE in 1987, levelling off to 26 per cent by 1990. Non-residential construction should demonstrate strong growth in the next several years, especially as construction of large energy projects is resumed.
- Consumer spending is expected to maintain its present share of 63 per cent of GNE at the end of the decade after a slight dip in the mid-eighties.
- Increased investment in machinery and equipment and spending on durable goods, both of which are largely imported, may mean that imports will represent over 32 per cent of GNE by the end of the decade compared with about 27 per cent projected for 1981.

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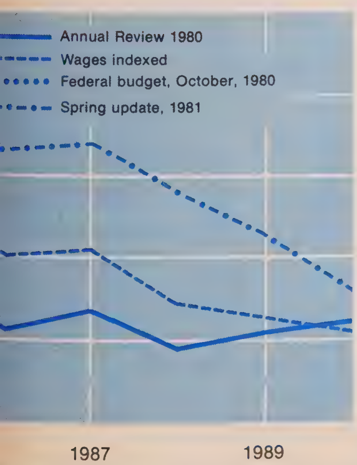


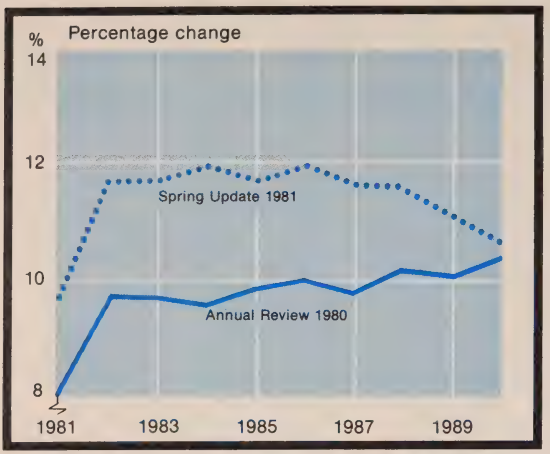
The rate of inflation is now expected to remain much higher throughout the decade than the Council projected in its Seventeenth Annual Review. This is because of slightly higher energy prices and taxes, higher prices of exports and imports, and a wide range of inflationary pressures operating in Canada.

Double digit inflation now seems likely to last almost to the end of the decade. The projections show an increase in the Consumer Price Index (CPI) of 11.4 per cent this year, rising to 11.9 per cent in 1982 and declining only gradually after that. By 1988, the inflation rate is expected to be below 10 per cent for the first time this decade, with a 9.8 per cent increase projected for the CPI in that year. By the end of the decade, inflation, according to this measure, will be running at a rate of about 8.6 per cent a year.

Projections made for the Seventeenth Annual Review last fall showed 1981 as the last year of double digit inflation – at least in this decade.

Higher inflation is likely to affect savings too. Saving incentives, such as Registered Home Ownership Savings Plans and Registered Retirement Savings Plans are not indexed to allow for inflation. So as prices rise, the value of savings in these plans is eroded. The saving rate, which was 10.2 per cent in 1980, is expected to drop off throughout the rest of the decade to reach a level of 7.7 per cent by 1990, unless the limits on incentives to savings are increased.

The Spring 1981 reassessment of wages and prices indicates wage and price inflation in the range of 11 per cent to 12 per cent over the medium term. This is more in line with one of the projections in the Seventeenth Review that assumed real wages would be maintained by indexing wage rates to the CPI.

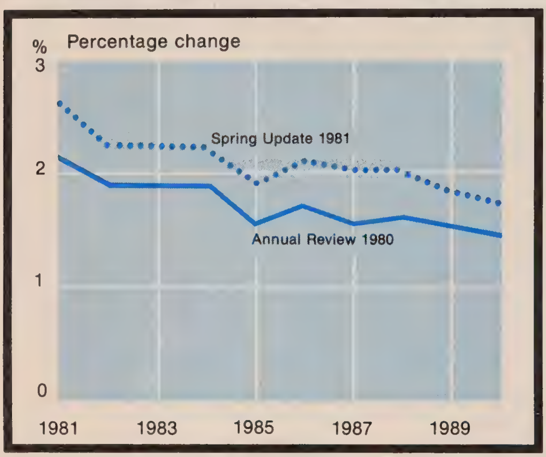


How wages increase

Growth in nominal wage rates is now expected to be higher than before. Most econometric models over the past couple of years have tended to under-estimate wage increases.

There are other reasons for expecting wages to rise faster. Unemployment rates around the middle of the decade are now projected to be lower than they were before and this may put some upward pressure on wages.

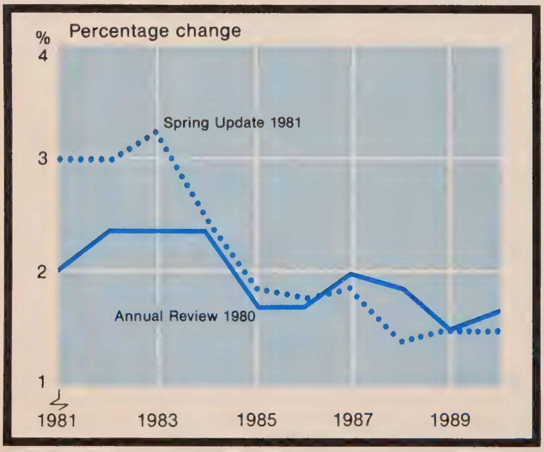
Slower growth in public sector wages will keep them more in line with inflation rates. But wages generally will not keep pace with inflation and no significant increase in the average of real wage rates is expected until the latter half of the decade. Projections of real disposable income have also been lowered. This source of spending money will probably increase by less than one per cent in 1981, averaging about two per cent a year for the rest of the decade.



The labour force

Labour force growth is still quite strong and recent experience here indicates that previous projections may be too low. The percentage of women in the 25-to-44 year age group who are in the labour force is likely to rise faster than expected. About 60 per cent of this segment of the population is now working for pay and their participation rate is projected to reach 80 per cent by 1990.

Overall, about 63 per cent of adult Canadians are now in the paid labour force and this rate is expected to increase gradually to reach 68 per cent by 1990. Over the next ten years, labour force growth will probably average about two per cent a year. By the end of the decade, this rate should be slowing slightly.

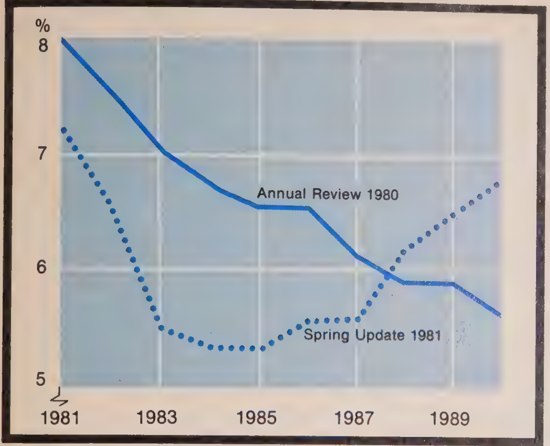


Available jobs

Higher real economic growth, particularly in the first three years of the decade, will mean higher growth in employment. From now through 1983 the economy should be able to generate enough new jobs to increase employment by about 3.1 per cent a year instead of the 2.3 per cent projected in the Seventeenth Review.

The rate of job creation will slow down considerably towards the end of the decade, reflecting the rather depressed real growth path projected for the Canadian economy during that time.

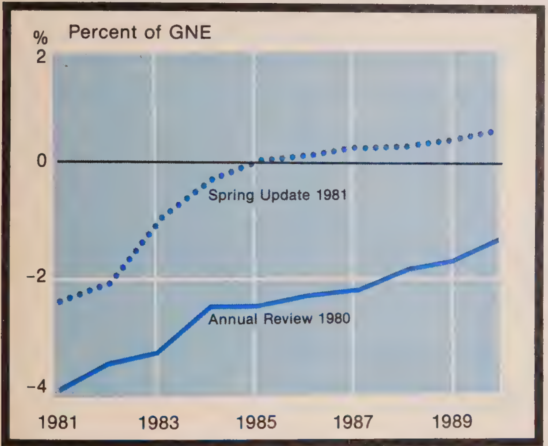
The good news is that productivity growth is likely to recover during the period 1982 to 1990, although it will remain around 1.0 per cent a year. Productivity in manufacturing will likely increase at between 2.0 per cent and 2.5 per cent a year.



Unemployment rate

Improved economic growth and higher job creation will make it possible to bring the unemployment rate down sooner than originally projected, but the improvement may be short-lived. In the early part of the decade, the percentage of workers without jobs is expected to drop from 7.2 per cent this year to about 5.3 per cent by 1985. Earlier projections indicated a rate of 8.0 per cent for 1981 falling to 6.5 per cent in 1985.

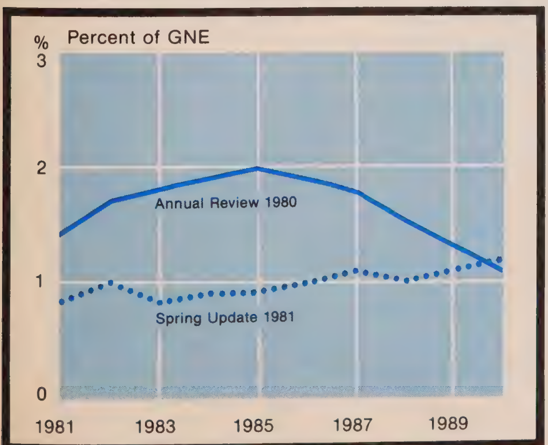
By the end of the decade, if policies do not change and investment is sluggish, economic growth will slow down and the jobless rate will be on the rise again.



Federal deficit

Projections of the federal government's fiscal position have changed dramatically. The Seventeenth Annual Review projected a deficit amounting to 4.0 per cent of Gross National Expenditure (GNE) in 1981 and falling gradually to 1.3 per cent of GNE by 1990. Now, because of the National Energy Program (NEP), the federal government could be in a surplus position by the middle of the decade.

New revenue sharing arrangements, proposed in the NEP, shift the cost of the oil import subsidy from the federal government to the consumer and give the federal government bigger revenues. Money coming in from crude petroleum and natural gas production taxes will also help improve the federal government's budget position.



Provincial surpluses

The position of the provincial governments is not quite as favourable as originally projected. Although these governments are expected to continue to have surpluses for the entire decade, they will be lower than expected.

Lower provincial oil and gas royalties in the early part of the decade mean that provincial surpluses will likely average about 0.9 per cent of GNE over the next five years instead of the 1.8 per cent projected in the Seventeenth Annual Review. By the end of the decade, provincial surpluses are expected to average 1.2 per cent of GNE, compared with the 0.6 per cent projected for the federal surplus.

Spending by all levels of government is expected to decline from 17.4 per cent of GNE this year to 15.6 per cent by 1990.

Fiscal arrangements

Council research now in progress

Though few people are aware of it, the upcoming negotiations between the federal government and the provinces over "fiscal arrangements" may have just as much effect on Canada's future as those over the Constitution.

With this in mind the Economic Council is currently studying the key issues relating to these complex questions. The federal-provincial negotiations will centre on renewal or replacement of the Fiscal Arrangements Act, which expires in 1982. This Act of the Parliament of Canada governs the principal intergovernmental fiscal arrangements, including tax collection agreements and programs such as Equalization and Established Programs Financing – programs which account for three-quarters of all transfers from federal to provincial governments.

The intent of the Council's research in this area is to establish a context within which Canadians will be able to judge the arguments presented by the federal government and the provinces during the process of negotiation.

By stimulating informed public discussion of the issues, the Council hopes that its research will contribute to finding solutions which are equitable for all parts of the country and beneficial to the economy.

Finance Minister Allan MacEachen has already told a parliamentary committee that he is looking for a change in the arrangements and some of the provinces have also indicated their wish to alter past agreements.

At stake in the current fiscal year are nearly $11 billion in transfers from the federal government to the provinces.

The negotiations may bring into question the present goals of the equalization program and issues such as the establishment of national standards for services funded through the arrangements, including medical insurance, hospital care and post-secondary education.

The aim of the equalization program is to ensure that every provincial government has enough money to provide a reasonable level of public services to its population without any one province having to have exorbitant tax rates in relation to the others. The program has also had the effect of redistributing a portion of the nation's wealth to the poorer regions of Canada.

When equalization started in 1957, British Columbia, Alberta and Saskatchewan were among the have-not provinces. However, the rapid increase in oil and gas revenues accruing to some provinces, especially since the mid-1970s has radically altered their relative fiscal positions. This is certain to be a consideration in negotiation of the new arrangements. It clearly raises questions about the goals of the equalization program, which, it has been argued, should explicitly redistribute wealth or economic opportunities.

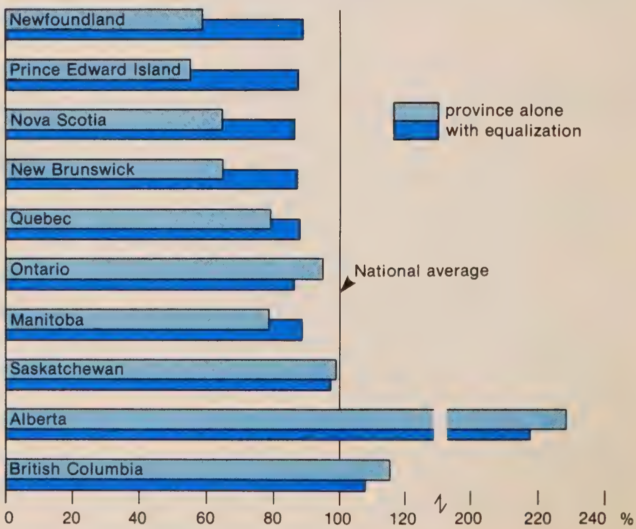
The Council's research on fiscal arrangements will include an examination of alternative forms of equalization payments; the future of federal "conditional" grants to finance provincial expenditures on health and post-secondary education; the implications of intergovernmental fiscal arrangements for stabilization policy; the effects of natural resources pricing decisions on the fiscal positions of federal and provincial governments; the movement of factors of production and efficient allocation of resources in the economy. Tax and fiscal harmonization between federal and provincial governments are being studied, as is the process of negotiating intergovernmental fiscal arrangements itself.

Finally, the research will include an examination of how other countries, including Australia, West Germany and the United States, deal with comparable questions of public finance.

How equalization helps provinces

Some provinces find it more difficult than others to raise revenues. The equalization program supplements the revenues of those provinces by making unconditional transfer payments to bring their revenue capacity close to the national average.
The chart below shows how each province's revenue-raising capacity compares with the national average when provinces use only their own sources of revenue, and then how equalization payments increase the revenue capacity of each province. A representative tax system is applied to provincial revenues, which include 100 per cent of natural resource revenues and local property taxes.

Percentage of the national average, 1977-78



Newfoundland

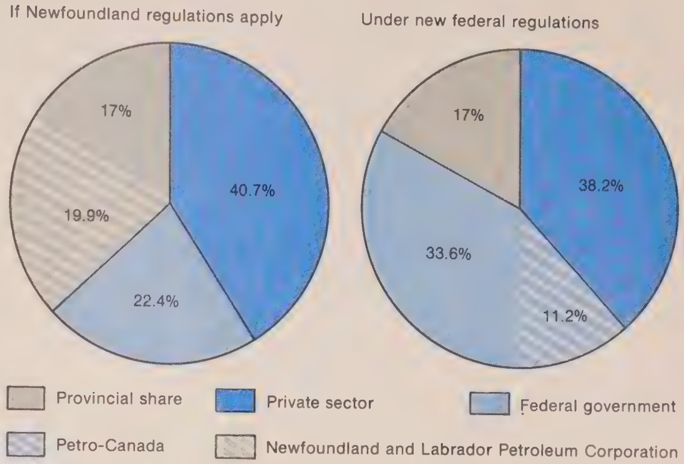
Hibernia — a Pandora's box?

The Hibernia oil field may turn out to be Canada's biggest oil discovery to date. Recent estimates put its reserves somewhere between one and two billion barrels – or considerably more oil than Canadians use in a year. Even so, Hibernia will not make Newfoundland another Alberta, says Council economist Jonathan Wilby, although discovery of other commercial fields – a distinct possibility – could transform the province's economic position.

Development of Hibernia may open a Pandora's box of problems concerning natural resource ownership. Whoever controls that billion barrels plus stands to profit substantially. The federal and Newfoundland governments are currently wrangling over that very issue, each claiming the jurisdictional right to regulate the oil field's potential revenues.

In a paper written for the Council's recently released report on Newfoundland's economy, Wilby says that Newfoundland would fare very much better under its own regulations than under those of the federal government, "but not quite to the extent that some sources have claimed."

How oil revenues would be distributed



The calculations above assume that oil production will total one billion dollars, that inflation will average eight per cent a year, that capital costs will increase by 12 per cent a year, and that the revenues are discounted at seven per cent a year after allowing for inflation.

The chart shows how different regulatory systems would affect the share of revenues going to governments, their crown corporations and the private sector. Wilby used a cash flow technique to see what would be the impact of the different proposals.

Clearly, Newfoundland gets a much bigger piece of the revenue pie when it has regulatory control. Private sector companies would get a larger share of total revenues under that system, but they would get a larger share of the expenses too.

Wilby finds, however, that these companies get a somewhat better return on their investment under a federal regime. The reason, he says, is that with provincial regulations private companies must pay all capital costs, whereas under the federal system, Petro-Canada bears many exploration and development expenses.

In dollar terms, Newfoundland stands to receive over $9 billion from Hibernia if it controls offshore oil, assuming that the oil will be priced the same as conventional oil, and that inflation averages eight per cent a year. If production continues for 20 years, Wilby calculates this income at an average of $450 million a year, or about $800 a head. In peak production years, revenues would be much higher than this.

Even under federal jurisdiction, provincial revenues over the life of the field could run as high as $4.25 billion after allowing for inflation. Would this be enough, "to wash Newfoundland's economic problems away in a sea of cash?" Probably not, says Wilby, because these figures do not allow for the fact that the equalization payments Newfoundland now gets from the federal government will dwindle as its resource revenue increases. This loss under a federally operated system and the present equalization formula would mean Newfoundland would have to give up about 49 cents in equalization payments for every dollar it gets from oil. Once it becomes a "have" province, Wilby says, "the federal government seems intent on gaining a share of mineral resource revenues from Hibernia." No one knows how big a share, but it is possible that the province would have to hand over 25 cents out of every oil revenue dollar. But Wilby's calculations indicate equalization payments will not be reduced to zero unless Newfoundland's oil revenues got up above $700 million between now and 2004 – and this does not seem to be likely.

With provincial regulations in force, equalization payments to Newfoundland could end by 1987. And over the 20-year life of the Hibernia field, Newfoundland would lose about $4 billion in these payments, eroding over half the provincial gains from oil.

The discovery and production of more fields, though, would increase the province's income and bring equalization payments to an end more quickly. Newfoundland then, under a revenue-sharing agreement, could expect a larger share in higher revenues.

"Revenue Implications of Offshore Oil Under Different Taxation and Profit-Sharing Regimes: The Case of Hibernia," by Jonathan Wilby. Discussion Paper No. 197.

Regional disparities

A new look at the western boom

The notion that western Canada is prospering at the expense of all the other provinces can't be justified, claims a recent paper written for the Economic Council.

Western economies are growing rapidly right now to be sure, say University of Alberta authors Kenneth Norrie and Michael Percy. But it will be many years before the West's share in economic activity begins to rival that of Ontario and Quebec. In comparison, the shift of activity when western agricultural lands were being opened up at the beginning of this century had much more impact than the present western oil boom.

In the past, western resource booms invariably gave eastern economies a boost as well. Good markets for wheat, minerals, agricultural and forest products and oil and gas led to the development of thriving primary industries out West, but did not stimulate the growth of enough local manufacturing or services there. So eastern manufacturers and financiers were able to provide the goods and services westerners needed, and eastern industry flourished accordingly.

Today, the clamour for crude oil and natural gas means western economies are once again doing well. If this latest resource boom follows the pattern of earlier ones, eastern industry should benefit too. But some observers say it's having an entirely different effect instead – that the centre of economic gravity is shifting westward now, as provinces there attract people, investment and industry away from the East. So at a time when seven provinces must pay increasingly higher energy bills to three oil and gas-exporting provinces (British Columbia, Alberta and Saskatchewan), they are also losing their traditional dominance in the manufacturing and service industries.

What evidence is there to support the argument that the West has forsaken its dependence on the primary sector and started to industrialize? And is there any reason to suspect that the East's industrial heartland is worse off now that the West is doing well? Norrie and Percy tackle these questions from two angles: first, they use traditional economic theories to predict how rising energy prices should affect oil-producing and oil-consuming economies; and then they look at what's actually happened to the economic structure of Canada's regions so far.

Their analysis of the impact oil price increases have on two somewhat simplified regional economies, an oil-producing western region with some manufacturing, and an oil-consuming industrialized eastern region, fails to convince the authors that a resource boom of this nature changes the existing economic structure. As workers and investment in the West become increasingly tied up in the energy sector, they say, there will be little opportunity for manufacturing industries to develop there. So the West will go on relying on eastern imports, and in fact will be able to buy more of them with the larger income coming in from oil exports.

In theory, expanding primary industries and lower taxes could attract enough people to the West to make it worthwhile for industry to settle there and avoid transportation costs. Energy sector projects could stimulate the growth of new industries too; and provincial government policies favouring local businesses, or offering subsidies and tax breaks, might also encourage firms to head west. But companies and workers are not likely to move away from the East unless there are strong incentives to do so, the authors say.

It's too early in the day to predict whether or not the westward shift will take place, but so far there's not much evidence that the West has attracted a high proportion of population and industry. Between 1961 and 1978, the increase in western Canada's share of population (1.1 percentage points), real gross domestic product (2.9 percentage points), labour force (1.3 percentage points) and new investment has been surprisingly small. Nor is there any clear indication that western manufacturing that has grown up recently is competing with eastern markets. Rather, it is closely tied to the primary sector, particularly the energy industries.

So it's hard to argue on theory or evidence that eastern Canadian economies are losing out to western ones. On the contrary, Norrie and Percy say, they're better off linked to western prosperity than they would be otherwise. Undoubtedly some of the blame for the relatively slower performance of the industrial heartland of Ontario and Quebec in the 1970s does fall on higher energy prices. But the blow would have been more severe if those provinces were paying the world oil price. Internal supplies of western oil at markedly lower costs have in fact cushioned the economic adjustment eastern provinces have to make, the authors argue.

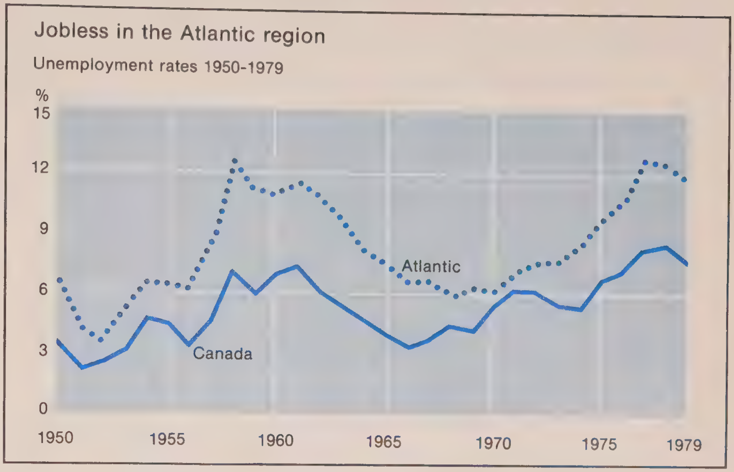
National Film Board of Canada

Eastern industry and western oil

"Westward Shift and Interregional Adjustment: A Preliminary Assessment," by K. H. Norrie and M. B. Percy. Discussion Paper No. 201.

Jobless key is productivity

Why is unemployment so high in Canada east of Ontario? And why has it been that way for so long? As long as records have been kept – which is more than 30 years – "the upward march of unemployment rates going east, through Quebec, the Maritimes, and on to Newfoundland is unmistakable, in boom and recession, in big towns and little, in winter and summer" say two Council economists.



Policy-makers have tried almost everything. Equalization payments and unemployment insurance were supposed to take care of things until the normal economic adjustment process began to bite and workers moved out of the high unemployment areas or business moved in to supply them with jobs. For the past 15 or 20 years, more active attempts have been made to speed up the process through the Department of Regional Economic Expansion and other government subsidy programs. But nothing seems to have worked.

Policy not working

Why hasn't the policy been a success? Why is it that when the number of jobs has increased so rapidly (by 85 per cent in Quebec between 1947-50 and 1976-79) unemployment remains so high? Neil Swan and Paul Kovacs argue that the theories on which current policy has been based are not the right ones. "The doctor who prescribes quinine and mineral salts for malaria will not cure a patient with influenza" they say. In a study that tests out a new theory of regional disparities, the two Council economists come to the conclusion that one key to the problem is productivity.

Traditional theories have argued that improved productivity may increase incomes but will not do much to reduce the unemployment rate. In fact some economists have said that increasing productivity may mean that fewer workers are required to do the work and so unemployment actually goes up.

Swan and Kovacs say that productivity improvement can create jobs and their research seems to bear out that proposition. If productivity is low, they say, and we assume full employment, wages will be lower than in other regions. If workers then succeed in bargaining for higher wages without improving their productivity, employers will not hire them and unemployment will increase. But if productivity increases, the demand for labour will increase and unemployment will be reduced.

But it's no good just looking at productivity in manufacturing or the resource sectors. Productivity in the non-traded goods and services sector, which accounts for about two-thirds of any economy, is just as important. So the scope for policy is much wider than anybody thought because policy-makers have been used to thinking only in terms of boosting exports and local manufacturing.

Identifying the problem is one thing, but coming up with solutions to the disparities in eastern Canada is not going to be easy. Although unemployment could very likely be reduced by improving productivity, "there is no guarantee that government policy-makers can find cost-effective ways of improving regional productivity that have not been found by profit-seeking enterprises."

There is no single formula for improving efficiency of production in all areas of economic activity. Each industry will have to be examined individually and compared with similar industries in other regions to find the innovations in machinery, techniques or management which will make that particular industry more efficient.

"In a sense, what our study advocates is more studies" says Neil Swan. "This is not an easy way out, however, but what we see as the first step towards finally arriving at a solution to a problem that has persisted despite 30 years of efforts."

As well, "reductions in the national unemployment rate do have a very powerful effect in reducing unemployment in eastern Canada," say the authors, and their Newfoundland data confirm this. National policies towards national unemployment and inflation should take account of this, they say. And policies to promote productivity improvement, in both the service and non-service sectors, offer some hope for a permanent reduction in both unemployment and income disparities in eastern Canada, they conclude.

This study is the latest in a series conducted as part of the Economic Council's extensive examination of the Newfoundland economy. The report ol that study, *Newfoundland: From Dependency to Self-Reliance*, was published in November 1980.

Empirical Testing on Newfoundland Data of a Theory of Regional Disparities, by Neil M. Swan and Paul J. E. Kovacs (Catalogue No. EC22-92/1980E; $4.95 in Canada, $5.95 elsewhere).

"Global 2000"

U.S. report paints gloomy picture

Population, resources and environment may soon become the number one source of contention on the international scene, replacing more traditional conflict areas such as economic competition and political and territorial differences, according to a senior U.S. government official.

Invited to Ottawa to present a seminar at the Economic Council, Thomas Pickering, Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, warned that pressure on renewable resources is "clearly greater than anyone would have expected or indeed been able to predict." Pickering headed a U.S. government effort to project and assess worldwide trends in population resources and the environment to the end of this century. The report of that study, "Global 2000," was released by the Carter administration last year.

Based on the assumption that present national policies would continue, that there would be a fairly rapid rate of technological advancement but no "miracle" breakthrough, and that there would be no major wars or disruptions of the international monetary system, the report's projections included population, climate, food supply and demand and energy developments. Despite some imperfections in the methodology, Pickering says the report's message is "clear, unequivocal and unavoidable."

• Population will increase from 4.5 billion today to more than 6 billion by the year 2000, with 90 per cent of the population growth occurring in the developing countries, much of it in huge urban areas. Thirty million people will be living in Mexico City, for example. (More recent population projections have been lower than those in the Global 2000 report.)

• The supply of natural resources probably won't keep pace with escalating demand. Although food production could grow by as much as 90 per cent between 1970 and 2000, this increase only works out to 15 per cent more a person, while food prices will nearly double.

Dwindling energy resources will continue to plague countries everywhere, particularly the developing ones. While world petroleum production should peak before the end of the century, the overall world demand for energy will increase by almost 60 per cent by 1990.

But even more alarming, Pickering said, is the rate at which forests are vanishing, with serious consequences for the world's water supply. In the tropical developing countries, he claimed, "a forested area half the size of California is disappearing each year."

Despite accusations of "gloom and doom" from some commentators, Pickering said that the overwhelming reaction to the report has been that it "correctly sets forth a series of critical, pressing global problems confronting mankind, and that we must now move beyond the analyses and consider the measures nations can take independently and co-operatively to deal with the problems." He said the report deliberately does not suggest policy responses because the study concentrated on presenting "as complete and objective a picture as possible of likely future conditions untrammelled by an effort to sell a preferred set of solutions."

Better forest management needed in Newfoundland

Newfoundland's forests could be a better source of much-needed jobs if they were properly managed. But unless the province adopts policies to improve management and make more efficient use of its forests, timber will become a scarce resource and the number of jobs could decline, according to a study published by the Economic Council.

John A. Gray, of the University of Manitoba, says in a report prepared for the Council's study of the Newfoundland economy, that the province could be supplying more of its own lumber needs from its forests if there were proper allocation of trees between the various sectors of the forestry industry. This would in turn increase employment in Newfoundland's logging and sawmill industries.

The forestry industry in Newfoundland provides 5,000 person-years of full-time employment for islanders, ranking it third among resource employers. But, poor allocation of logs between the pulp and paper and sawmill industries means that sawmills operate below capacity and Newfoundland has to import more than half its lumber from the mainland.

Failure to improve utilization and management of forests could have dire consequences, the report concludes. In the past neither the government nor private companies have had much interest in ensuring the renewal of forests.

"With virtually no revenues from the forest, the government has little incentive to engage in forest management, as the financial benefits go to the companies. On the other hand, there is little incentive for the companies to engage in forest management, since they already have a sufficient or excess timber supply from the excess of licences allocated," says Gray.

About 75 per cent of the island's forests are now mature or overmature trees, while immature trees, the forests of the future, account for only 25 per cent. Failure to properly manage these immature stands and ensure the renewal of existing forests could bring a decline in the island's forests by the year 2000, or even earlier if the ravages of the spruce budworm infestation continue.

The Trees behind the Shore: The Forests and Forest Industries in Newfoundland and Labrador, by John A. Gray (Catalogue No. EC22-91/1980E; $9.95 in Canada, $11.95 elsewhere).

A new way to help pensioners

In the current debate about how to improve the financial situation of Canada's elderly, one possibility may have been overlooked. It's a plan that would help senior citizens to help themselves. It would probably not require government involvement, and it might help to relieve the growing financial burden of supporting an aging population.

The plan is a "reverse mortgage." Not a new idea and one that seems to be flourishing in other countries like Britain and France. But an idea that is almost unknown in Canada.

Most people think of a mortgage as a way of borrowing money to buy a house – an arrangement that requires the borrower to make a monthly payment. A reverse mortgage is a way of mortgaging a home to provide a monthly income to the borrower instead.

The advantages are obvious. Having worked for 25 years or more to pay off the mortgage on a house, many senior citizens end up with a very valuable asset. But that may be small consolation if income after retirement is so low that they are living below the poverty line. They either have to suffer a very low standard of living and end up leaving the valuable asset to their heirs, or they sell the home and move into rented accommodation, leaving themselves vulnerable to the ravages of inflation. A reverse mortgage would be a way of cashing in, in their lifetime, on the wealth they have accumulated.

Economists Henry Bartel and Michael Daly, in a paper published by the Economic Council, say that reverse mortgages would give elderly homeowners much more freedom of choice and let them use their own assets to help themselves. It seems ironic, say the economists, "that, faced with the rising costs and consequent financial strain of home ownership, the very act of parting with an interest in their home, through a reverse mortgage, may generate the income to financially enable senior citizens to remain there for the rest of their lives."

There are basically two types of reverse mortgage schemes. Both are ways of borrowing against a house. The straightforward reverse mortgage does not give any ownership rights to the issuing company. The homeowner gets a periodic payment, either for a fixed period of time or for life. The debt accumulates as a mortgage loan with the house as security and is worked out so that it does not exceed, say, 75 per cent of the current market value of the house.

Because the money is only a loan, the retired person would still be able to qualify for benefits under various income-tested public assistance programs. Interest on the loan varies with prevailing market mortgage rates – an added bonus in countries like Britain and the U.S. where mortgage interest is tax deductible.


National Film Board of Canada

Homes as a source of money

At some point, of course, the mortgage loan becomes due. If the due date is the death of the owner (or surviving spouse) the house can be sold to pay off the debt. If the loan was for a fixed period, it could be renewed for another term so long as the value of the house has gone up enough in the meantime.

The second type of reverse mortgage is a reverse annuity mortgage. In this case the owner takes out a mortgage on the house and uses the money to buy a lifetime annuity. Repayment is postponed until the house is sold – either at the death of the owner or before. A variation on this plan involves the outright sale of the house in return for a life annuity from the proceeds, and the right to continue living in the house, at a nominal rent, until death.

As with all annuities, the size of the monthly payment will depend on the homeowner's life expectancy. An elderly woman would receive a smaller annuity payment than an elderly man. But the older the homeowner is when the mortgage starts, the higher the annuity will be. The authors say that a minimum age of 69 is recommended for starting the plan because the annual annuity benefit at younger ages does not seem to be worthwhile financially.

Reverse mortgage schemes are not unknown in Canada. The Nova Scotia government recently put forward a plan to improve pensions for retired homeowners, using their houses as equity. And a trust company started offering fixed term reverse mortgages about two years ago.

But Bartel and Daly say that financial institutions seem reluctant to make reverse mortgages available. In some case, government regulation may prevent them from doing so. Only life insurance companies can offer lifetime contracts under current legislation, for example. As well, tax concessions on mortgage interest encourage these schemes in both the United Kingdom and the United States, but Canada does not have these incentives. Finally, there is the difficulty of convincing elderly homeowners, "who, quite naturally, tend to be extremely cautious," that this rather complicated and unconventional scheme could be beneficial to them.

Just the same, the authors say, these new financial instruments have proved successful in Britain and France and could be particularly beneficial to elderly women who are left without any pension income when their husbands die. Reverse mortgages "would not only increase the incomes of many elderly homeowners but also allow them to remain in their homes while at the same time providing some protection against inflation." And Bartel and Daly suggest that some form of tax concession should be introduced to encourage reverse mortgage schemes.

"Reverse Mortgages: A New Class of Financial Instruments for the Elderly," by Henry Bartel and Michael Daly. Discussion Paper No. 188.

Language barriers

Francophones do better now

It is still a cherished notion of some in Quebec, both anglophone and francophone, that things haven't really changed since Wolfe met Montcalm in 1759.

This view has it that Quebec society is a ladder with the English minority holding economic power at the top while the majority of francophones languish on the bottom, blocked from rising upward.

A study by Council economist Jac-André Boulet throws a damper on a number of favorite arguments about Quebec's power structure.

This exhaustive study of the income of Montreal's male labour force clearly establishes that there are now more francophones than anglophones at the very top of the income ladder. Boulet finds that francophone workers have made steady progress in acceding to the top jobs. In 1961, anglophone workers made up 56 per cent of the upper echelon. By 1970, 56 per cent of the top jobs were held by francophones and by 1977 this figure had jumped to 70 per cent.

More startling, the study found that the problem of income disparities between individuals of equal ability doesn't really exist among the majority of Montreal workers. In fact, according to 1971 figures income gaps only begin to appear among workers earning more than $11,000 per year, and most of the disparities, Boulet found, occur among

those four per cent of Montreal workers at the very top of the corporate ladder.

Boulet suggests that these remaining disparities among the privileged of the corporate hierarchy may never disappear. He says most of the differences in income at the top of the ladder are due to the presence there of highly paid anglophones from outside Quebec.

Usually recruited by corporations to work in their Montreal head offices, these individuals are highly experienced and therefore command higher salaries than most of their Quebec-born francophone colleagues. Boulet says that the persistence of a small degree of wage disparity may be the price Montreal has to pay for its role as a head-office city.

In the past, Quebec-born anglophones may have found it easier to gain access to the upper echelon of corporations through a network of communication and contact among anglophones in Quebec. Anglophones tended, through this network, to hear first about job openings or opportunities for advancement. A similar network, however, is now being created by the presence of francophones on the corporate ladder and should help francophones to make further progress. Boulet says that the closing of the income gap between 1961 and 1977 should be looked at cautiously before drawing conclusions. On the one hand, it is the result of the massive arrival on the labour market of the francophone generation that benefited from the reform of Quebec's education system in the 1960s. But it is also the result of highly paid anglophone executives leaving Quebec. In some cases, these executives left when their jobs were shifted to other parts of the country, and they were replaced by francophones who got lower salaries because they had less experience.

The study underlines the growing economic value of bilingualism in Montreal. Bilingual anglophones were at the top of the income ladder in 1977, followed closely by bilingual francophones and bilingual people whose first language is neither English nor French. Bilingual anglophones earned incomes 22 per cent higher than unilingual anglophones. The earnings of bilingual francophones surpassed those of unilingual anglophones by 10 per cent.

Language and Earnings in Montreal, by Jac-André Boulet (Catalogue No. EC22-90/1980E; $9.95 in Canada, $11.95 elsewhere).

New appointments to the

Pierre Lortie is a senior associate with SECOR, a Montreal consulting firm, and has served as consultant to several ministers in the Quebec government. A former professor at Laval University, he is chairman of the Montreal Chamber of Commerce and president of the Montreal Stock Exchange.

Alastair Ross is president and director of Allaro Resources Ltd. of Calgary, and chairman of the Canadian Energy Research Institute. Formerly president of Decalta Petroleum Ltd., he is also a past president of the Independent Petroleum Association of Canada, and Pembina Pipeline Ltd.

Corporate accounts need changes

The 1980s is shaping up to be a decade of investment. But will business be able to make the kind of sound investment decisions that are needed to keep the economy going? The Economic Council has some concerns that it may not, unless substantial changes are made in the way corporate accounting practices and taxation rules deal with inflation.

In its 1979 Annual Review, *Two Cheers for the Eighties*, the Council warned that under existing Canadian tax rules, inflation imposes extra burdens on many corporations. The effect was substantial during the inflationary Seventies, and may have contributed to the inadequate level of investment in that decade, said the Council. "If the tax rules and accounting practices remain unchanged," the Council said, "they may similarly inhibit the ability and willingness of firms to invest during the Eighties."

Before any business can report a net return on its capital, it has to provide out of earnings for all the costs of maintaining that capital. And inflation can affect those costs in a number of ways:

- Assets depreciate over time. Annual depreciation charges are supposed to allow for this. But both conventional accounting practice and the income tax rules say that depreciation has to be based on what the asset cost originally and not what it would cost to replace it. Chronic inflation increases the gap between historical cost and replacement cost. As a result, both reported profits and taxable profits may be overstated. Firms may also not be able to set aside enough through accumulated depreciation to replace assets and so they may delay investment.

- The inventory valuation methods accepted for tax purposes in Canada imply that a firm puts raw materials into production in the approximate sequence in which they were acquired. When prices are going up rapidly, the cost of sales will tend to be understated, because it will not reflect current costs. This means that reported profits will probably be overstated in periods of high inflation. Taxing of these so-called inventory profits may encourage businesses to reduce their inventories.

- Inflation can also affect business borrowing and lending and the use of working capital. Interest rates go up when inflation increases so that a lender can maintain a real rate of return and preserve the purchasing power of the money lent. But the inflation premium that is included in the interest rate distorts the picture. The borrower has to pay more to cover inflation, so his reported income and cash flow are lower than they would otherwise be, and the lender's reported income is higher as a result. Management, shareholders and financial markets may then get misleading pictures of the real performance and financial health of both the borrower and the lender.

Can the stock market see through these conventional financial reporting methods to get an accurate picture of the collective corporate health? One school of thought argues that the market is not deceived by profit figures distorted by inflation, and that the value of shares reflects a realistic view of profits. But others argue that, although the market does take account of the inflationary impact on depreciation and cost of sales in determining profits, the real gains that a firm may make on outstanding debt are still not reflected adequately.

In any event, "how to adjust reported profits for inflation is a highly controversial question," said the Council in its 1979 Annual Review.

On October 15 and 16 this year, the Council will sponsor a conference on the problems of financial reporting and taxation during inflation (to be held in Toronto), at which interested representatives from large and small businesses, federal and provincial governments, industry associations and professional and labour groups will be invited to express their views and exchange ideas on the subject. For further information, please contact Eugene Nyberg, Adviser, Institutional Relations, Economic Council of Canada, P. O. Box 527, Ottawa, Ontario, K1P 5V6. Telephone: (613) 993-1550.

Economic Council of Canada

Patrick Shimbashi is a farmer from Taber, Alberta who specializes in growing, processing and marketing irrigated crops in the Southern Alberta Region. He is a director of the Alberta Fresh Vegetable Marketing Board, and chairman of the Alberta Potato Commission.

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Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has consistently provided Canadians with the analysis of economic policies, possible alternatives and their effect on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a major role in shaping public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal or the effect of the lowly spruce budworm on Newfoundland's economy.

We admit the Council isn't clairvoyant but it is all in all one of the best tools Canadians have for looking into their economic future and understanding their economic past.

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au courant

Economic Council of Canada

Volume 2, No. 2 1981

Canada's new fiscal arrangements

What energy means for the economy

More on government regulation

Technology in service industries

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research studies have been published since the last issue of *Au Courant*.

Compensation of Pollution Victims in Canada, *by John Z. Swaigen* (EC-22-94/1981E, $7.95 in Canada, $9.55 elsewhere).

The Adoption of Computer Technology in Selected Canadian Service Industries: Case Studies of Automation in University Libraries, Hospitals, Grocery Retailing and Wholesaling, and Department and Variety Stores, *by Steven Globerman* (EC22-95/1981E, $5.95 in Canada, $7.15 elsewhere).

Energy Prices and Productivity Trends in the Canadian Manufacturing Sector, 1957-76: Some Exploratory Results, *by E. R. Berndt and G. C. Watkins* (EC22-96/1981E, $4.95 in Canada, $5.95 elsewhere).

Now available free of charge

The Economic Council's Annual Report for 1980-1981 has been redesigned to give readers more information on Council activities and future plans. Chairman David Slater talks about the key role played by the Council in efforts to explore and resolve today's complex economic issues, and discusses recent changes the Council has made to adapt to the current economic climate. Also included in this new report are details on the various research projects currently underway, and a look at some new ventures in the communications field.

For a free copy, write to the Communications Division (address below).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 198 "An Exploration of Crude Petroleum Self-Sufficiency in Alternative Canadian Demand Environments," *by Bobbi Cain, H. M. Saiyed, assisted by P. Nevin and M. Willis.*

No. 199 "An Essay on Revenue and Spending Elasticities by Level of Government," *by R. S. Preston, B. L. Eyford and H. M. Saiyed.*

No. 200 "Canadian Crude Petroleum Self-Sufficiency in Alternative Domestic and International Pricing Environments," *by Bobbi Cain, H. M. Saiyed, R. S. Preston, assisted by P. Nevin and M. Willis.*

No. 201 "Westward Shift and Interregional Adjustment: A Preliminary Assessment," *by Kenneth H. Norrie and Michael B. Percy.*

No. 202 "Job Search, Duration of Unemployment and Subsequent Wage Gain," *by Surendra Gera and Abrar Hasan.*

No. 203 "The Impact of Canada's Old Age Security Program on Retirement Saving, Labour Supply and Retirement," *by Michael Daly and Peter Wrage.*

No. 204 "The Effect of Income Tax Incentives on Retirement Savings: Some Canadian Evidence," *by Michael Daly and Peter Wrage.*

How to order

The research studies listed above are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

The discussion papers and annual report are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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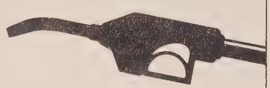
Volume 2, No. 2 1981

Fiscal arrangements

Energy policy



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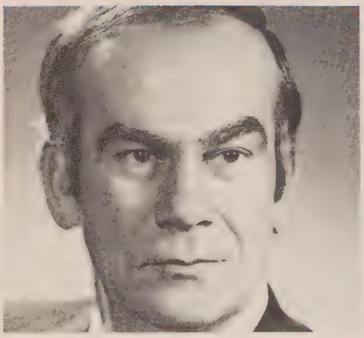
NEW APPOINTMENTS TO THE ECONOMIC COUNCIL OF CANADA



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Shirley Goldenberg is an associate professor of Industrial Relations with the Faculty of Management at McGill University in Montreal. She is a former president of the Canadian Industrial Relations Research Institute and has served on the Executive Board of the Industrial Relations Research Association (U.S.A.) and on the Board of Governors of the Labour College of Canada.

Paul Paré is chairman and chief executive officer of Imasco Limited and chairman of the Canadian Tobacco Manufacturers' Council. He has served on numerous boards of governors and is a director of many Canadian corporations, including Canadian International Paper Company, Canadian Pacific Ltd., Canron Limited and the Royal Bank of Canada. He is a member of the Advisory Council of the Better Business Bureau of Canada.

Federal-provincial discussions raise some key issues

There is no doubt that governments in Canada will be in a tight fiscal position in the coming years. The resource-wealthy governments in the West will not be sufficiently well off to counterbalance the deficit positions of other governments, even if they are willing to do so.

But although transfers of funds from the federal government to the provinces don't seem to be the main contributors to persistent deficits or surpluses at either the federal or provincial levels, it does not necessarily follow that the federal deficit should not figure in the review of the federal-provincial fiscal arrangements. Many of the arrangements were created in a totally different economic environment from the one Canada has now, and with that fact in mind, changing federal transfers to the provinces should be considered as a policy option.

Over the past few years, the Minister of Finance has said, the fiscal position of the federal government has deteriorated to a point where its freedom to initiate policies and programs has become severely limited. But at the same time, the overall deficit of provincial governments has turned into a surplus (although the seven provinces without oil and gas revenues continue to have deficits). Improving the position of the federal government has now become a priority for the management of the economy and to this end, the Minister of Finance has proposed a net reduction of federal transfers to the provinces.

However, it is important to recognize that there are substantial differences in the fiscal positions of the various provinces. The surplus position of the provinces as a whole is largely a result of the strength of the three western provinces, and especially Alberta. The federal government has already taken some major initiatives to redress the balance and following the October 1980 budget and the National Energy Program, the projections of the federal government's fiscal position have changed dramatically. If all the revenue and spending plans of the energy program are realized, the federal deficit will be reduced substantially, in fact that government could be in a surplus position by 1986, providing that it continues to exercise spending restraints.

The causes of the federal deficit are to be found in slow economic growth and persistently high unemployment, resulting in sluggish growth in government revenues and higher-than-expected government spending. Inflation has increased the burden of servicing government debt and indexing has reduced the extent to which governments benefit from higher levels of inflation. And all of this was aggravated by policy initiatives taken by the federal government in the mid-1970s to cut taxes and increase tax incentives and tax expenditures, while allowing tax exemptions to be exploited generously by various groups in the economy.

The fiscal arrangements between the two senior levels of government will be a major subject of federal-provincial discussions this fall as representatives of both levels of government renegotiate the Fiscal Arrangements Act which expires in 1982.
The Economic Council will publish a major report on this subject shortly. Earlier this year, Council chairman David Slater, along with David Sewell, director of the research project, appeared before the Parliamentary Task Force on Federal-Provincial Fiscal Arrangements. The material on these pages summarizes their presentation to that committee.

Many of these trends will probably continue in the forseeable future and there is no sign of a return to the strong levels of economic performance common to the early 1970s and the 1960s.

But the federal deficit problem cannot be solved by transferring the problem to the provinces. Not only do those economic trends indicate the inadequacy of such an approach, but also Council projections show that the coming decade will require investment at an unprecedented level in Canada – probably as high or higher than the peak periods of investment reached so far this century. This means that all governments will have not only to restrain their spending but also to raise taxes. Only then will they be able to encourage the financing of investment activities of the sort required.

Given the difficulties with restraint, the different levels of government will want to shift the burdens of any increase in taxes to each other. The political ramifications of policies calling for increased taxes inevitably lead in this direction. But this exchange of burdens goes nowhere towards solving Canada's economic difficulties.

In looking at potential cuts in federal transfers to the provinces, the case should be examined without prejudice. These transfers must be analysed separately as candidates for reductions just like all the other social programs the government funds. A cost-benefit analysis would help in judging how they compare with other federal social programs like manpower training or unemployment insurance.

Equalization

The equalization program originated with the 1940 report of the Rowell-Sirois Commission on Dominion-Provincial Relations. The objectives of the program have remained practically unchanged in spite of the 40-year interval and vast changes in circumstances of the federal and provincial governments. The Royal Commission recommended: "National Adjustments Grants be paid whenever a provincial government established that it could not supply Canadian average standards of services and balance its budget, without taxation appreciably exceeding the national average in relation to income."

Why do we need an intergovernmental transfer system when we have in place, at both levels of government, a well-established tax-transfer system

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among individuals, households and firms for regulating the allocation of economic activity and the distribution of its fruits? The answer seems to lie in the fact that in a federal system such as Canada's, the incomes that people can earn through their own labours don't reflect completely the real incomes of individuals living in different provinces. People living in a high income province, for example, pay higher taxes, generating more income per head of the population and enabling the provincial government to provide more net benefits per capita (spending minus taxes) than would be possible in a province with a lower per capita personal income. On grounds of equity, then, there is a role for a redistributive transfer system that would even out the net fiscal benefits from provincial government activities across the country. On grounds of economic efficiency too, there is a need for full equalization of interprovincial differences in these benefits.

These arguments must be qualified, however, by recognition of the constitutional powers over natural resources granted to the provinces under the British North America Act. The implication is that residents of any province have certain property rights as far as that province's natural resources are concerned. On equity grounds, then, natural resource revenues which are actually distributed to provincial residents should be treated differently in an equalization program – only a part of those revenues should be "equalized". Resource revenues which are saved, for example by putting them into a Heritage Fund, should not be subject to equalization. But resource revenues which are used to provide implicit subsidies to the users of services, for example by setting artificially low electricity prices, would enter into the equalization program.

One type of equalization program suggested by the Council's research looks remarkably like the present program, with the significant exception that only part of provincial natural resource revenues should be equalized. The Council's research also examines different institutional options for equalization, including redistribution of natural resource revenues directly between provinces.

Established programs financing

The way in which established programs such as post-secondary education, health services, social services and welfare are financed raises a number of issues. But the most fundamental issues related to Established Program Financing (EPF) are neither those of deficit management nor of "equal" treatment in programs. Rather they concern the division of federal and provincial interests and responsibilities in the areas.

The most important current questions for EPF in the upcoming negotiations probably are: What is the "fair share" of costs for the EPF programs that should be attributed to each level of government? and, Is there any ground for believing that the federal government has paid more than its "fair share"?

There will undoubtedly be disagreement on the answers to these questions. The block funding system, whereby the federal government gives the provinces a block of money to cover all programs, is favoured by the provinces because they can spend the money as they wish. Many people, including some federal political leaders, have urged that strings be attached to the federal transfers to the provinces.

The federal Minister of Finance indicated a view that, whatever the structural arrangements may be, the amount of federal transfers to the provinces should be reduced.

If provincial governments are to be expected to shoulder more of the costs of these social programs, they may have to reduce the services they provide or increase taxes or user charges. Either way, the provinces will probably be worse off compared with the federal government. The situation is one where one level of government is shifting the burden of costs to another level without any real "gain" and it is a pure political choice that determines where the political pain and gain should lie.

Council research does seem to support a feeling of broad satisfaction with the cost-shared Canada Assistance Plan and there appear to be no strong reasons for either the federal or provincial governments opening up this program for any fundamental reconstruction in this round of fiscal negotiations.

Some economists feel that the equalization program prevents the efficient allocation of resources in the economy because it leads to factors of production (labour and capital) being retained in areas where their productivity is low. By subsidizing residence in regionally depressed areas through equalization of access to public services, the program undermines the automatic adjustment mechanisms such as the migration of labour which would otherwise help to improve employment and income levels in "have-not" provinces.

It is also alleged that "have-not" provinces have become dangerously dependent on transfer programs and because of the incentives that these programs provide, governments of these provinces do not have to bear the full political cost of provincial legislation that tends to maintain regional disparities. As a result, they are encouraged to enact legislation which is detrimental to their long-run economic well-being.

Although these views have become the "conventional wisdom" in important policy-making circles in Canada, the Council's research leads to other conclusions. The equalization program does not impair the efficient allocation of factors of production, in fact it actually is needed to achieve efficiency. Workers who decide to move from one province to another to look for work may base their decisions on differences in public benefits that provincial government activities provide. If those benefits are equalized from rich to poor regions, then migration choices will be based essentially on economic considerations and so labour will be allocated more efficiently across all regions and the economy as a whole will benefit.

Some other policy issues

Renegotiation of the fiscal arrangements between the federal and provincial governments raises some other issues that will be dealt with in the Economic Council's study. How is stabilization policy affected, for example? What about the taxation arrangements between the various levels of government? And what kind of problems are related to the special status that both federal and provincial crown corporations have?

The Council has commissioned studies of these different policy aspects and some of the results are now coming in.

As far as taxation arrangements between the two senior levels of government are concerned, the developments over the past 40 years have been, by and large, healthy. But there have been one or two disturbing developments in recent years. In particular, the attempts by provincial governments to institute tax measures which would discriminate in favour of provincial residents who receive dividends from com-

Fiscal arrangements

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panies with headquarters in the province concerned, must be viewed with distaste.

However, some of the tax differentiation which has emerged recently may be viewed as a legitimate attempt by the provinces to implement distributional objectives and can be regarded as a healthy example of rivalry between jurisdictions. Differences in fiscal capacity between provincial governments cannot be addressed by trying to impose uniformity in taxes. Instead of giving tax breaks to attract business, the "have" provinces could simply achieve the same objectives by "expenditure competition" or by regulations having the same effect.

The tax treatment of crown corporations does give cause for concern, though, both in terms of intergovernmental fiscal arrangements and in terms of the organization of the economy.

It has long been realized that the takeover of business activities by one level of government can shelter these activities from taxation by another level of government. An obvious example of this is what happened when various provincial governments took over the production of hydro-electricity. And as the number of both federal and provincial crown corporations increases, the problem may become more acute.

Even more important is the effect that the tax treatment of crown corporations may have on the allocation of resources in the economy. Not only are these organizations not subject to taxation, unless special intergovernmental agreements provide for it, but they are not required to earn a "normal" rate of return on invested capital. This means that they can outbid the private sector of the economy to get access to investment funds.

Canada Pension Plan

Lending money to the provinces

There are not many borrowers these days who could get a loan at way below the going rate and never have to pay it back. Provincial governments do it. They can borrow money from the Canada Pension Plan (CPP) and chances are that the money will never have to be repaid.

Since 1966, when the Canada and Quebec Pension Plans were started, the provinces – except for Quebec – have borrowed over $18 billion from this source. Quebec has its own plan and doesn't borrow from the CPP. More than $16 billion has been lent to the other provincial governments from the CPP fund at rates of interest as low as 5.29 per cent.

The Act of Parliament setting up the CPP provided that accumulated funds could be lent to the provinces at interest rates equal to the yield on Government of Canada marketable bonds of similar maturity. In exchange for money from the CPP fund, the provinces issue bonds – so far for 20-year terms only. Until very recently, there were only two Government of Canada bond series with 20-year terms and they had coupon rates of 6.5 per cent and 3.75 per cent. Although these bonds sold at a discount, the yield was still on the low side, allowing provinces to borrow at very favourable rates. In these days of high interest rates, clearly the provincial governments are on to a good thing.

How has it affected their finances? There have been suggestions that such a ready source of low-cost funds would encourage provincial and maybe municipal governments to spend too freely on projects that perhaps wouldn't see the light of day if the provinces had to raise the money on the financial markets and pay the going rate for it. They may also be tempted to step up government spending or raise less in taxes themselves.

Some economists just assume that provincial governments do, in fact, use their borrowings from the CPP to increase spending. And many people in the business community believe that the way the CPP is set up at the moment amounts to a payroll tax to finance provincial government activities rather than a bona fide pension plan.

As part of the Economic Council's study of pensions, Council economist Keith Patterson looked at how these borrowings from the CPP affect provincial and municipal government finances. In a discussion paper, just published, he comes to the conclusion that the cash flow from the CPP has increased total borrowing in the Atlantic provinces but not in other provinces.

Patterson's findings are based on a model of provincial and municipal revenue and expenditure from which he estimates the effect of different variables on the behaviour of the junior governments.

It's true, he says, that when the CPP/QPP first came in, total borrowings in relation to population increased substantially in all provinces except Saskatchewan, where the increase was quite small. But he points out that in the mid-to-late 1960s, the "baby boom" children were just starting university so provinces had to expand their post-secondary educational facilities. As Canada entered the 1970s, investment in educational facilities became less important, but more capital spending was needed in health and energy fields.

On the whole, he finds, total per capita borrowings increased more rapidly in the Atlantic provinces than elsewhere in Canada. Because they have a lower credit rating, the Atlantic provinces have to pay higher rates of interest than other provinces when they borrow in the market. This means that there is a bigger gap between market rates and rates charged on CPP borrowings, making CPP borrowings that much more attractive for the Atlantic provinces.

Patterson says that because they are trying to prevent their tax rates from getting too high in relation to those of other provinces, the Atlantic provinces would find it more attractive to borrow from the CPP rather than raise taxes. If low-cost CPP funds had not been available, he says, provincial government spending in this region would probably have been lower and these provinces would have generated more revenue themselves.

"The Effect of Provincial Borrowings from Universal Pension Plans on Provincial and Municipal Government Finance," by Keith Patterson. Discussion Paper No. 192.

A new income support program?

Special unemployment insurance benefits have created serious problems for the Newfoundland economy. And in its report on Newfoundland, published last year, the Economic Council suggested it might be better if they were replaced with some other form of income supplementation. For about the same amount of money that is now being spent on special benefits for fishermen and extended benefits given to Newfoundlanders because the province is a high unemployment region, it would be possible to have a different system that would not have such a negative impact on the economy of the province.

In a discussion paper, published recently, Council economist Richard Zuker explains how it could be done. The system would be based on annual family income, rather than on income replacement for individual workers who lose their jobs.

Regionally extended benefits come into effect when regular unemployment insurance payments come to an end in any area where it is especially difficult to find work. They are financed from federal government revenues rather than from employee contributions. The special benefits going to self-employed fishermen are also largely government-financed – the premiums paid constitute only a fraction of the benefits paid out. Zuker argues that both types of benefits are really a form of income supplementation.

But the problem with relying heavily on the unemployment insurance program for income supplementation and protection against income inadequacy, he says, is that "the distribution of benefits will not necessarily be in correspondence with need." Zuker's assessment of "need" is based on looking at how lower income groups fare compared with higher income groups in terms of receiving UI benefits and comparing benefits paid to families in similar financial circumstances.

Although no specific information was available on the distribution of regionally extended and fishermen's benefits, the study looks at how unemployment insurance benefits generally are distributed to families and individuals in Newfoundland and draws some tentative conclusions. The author found that:

- Average per capita benefits in families where total family income was less than $5,000 a year were only about half those received by families whose total income was in the $5,000 – $10,000 range;
- Average per capita benefits paid to individuals who were not part of a family were about three times higher for those in the $5,000 – $10,000 income range than for those with incomes less than $5,000 a year;
- Children 18 years or older and still living at home received the highest per capita benefits of all types of family units with incomes up to $15,000;
- In all income ranges, per capita benefits for families of fishermen were greater than for all families with children.

Small sample

Zuker warns that the data relate only to the distribution of benefits and in many cases are based on small sample sizes, so they should be viewed with some caution. But he concludes that while it could be argued that unemployment insurance is paid to individuals in "need" because they have lost their jobs, the program "is rather insensitive to relative need within the class of recipients and families with equally inadequate incomes may not be eligible for benefits," – for example, those working year-round at low wages.

As one possible solution, Zuker suggests dropping the regionally extended benefits and special benefits to fishermen and redirecting the funds that financed them towards a fairer scheme of income assistance. Using a model developed by Health and Welfare Canada, he has tried out some alternate plans for supplementing low incomes. His simulations were limited mainly to one- and two-parent families with children under 18 years of age.

All the schemes are made up of various combinations of four components:

- The type of program – one possibility would specify eligible families must have at least $2,000 annual income from employment. Maximum benefits would go to families with incomes between $2,000 and $5,200 and be reduced as incomes rise above those levels. Another possibility would not specify any mandatory income requirement but benefits would increase up to the $5,200 income level and be reduced thereafter;
- Within these programs there could be low benefits, with each family getting a maximum of $1,000 plus $550 for each child, or there could be high benefits with $2,000 per family and an additional $1,000 per child;
- Families whose net income was more than $5,200 would have benefits taxed at a rate which could vary from 33.3 per cent to 50 per cent.
- Because no information was available on what percentage of family income comes from special UI benefits, it was assumed that total unemployment insurance benefits would have to be reduced by some percentage to reflect the elimination of the special UI benefits. The simulations included reductions of total UI benefits by 30 per cent, by 40 per cent and by 60 per cent.

How could such a program be financed? Spending on regionally extended benefits in 1978 amounted to $81.5 million and another $19 million was paid out in fishermen's benefits that year. After taking taxes paid on these benefits into account, Zuker estimates that these special benefits cost the federal government about $88 million. Social assistance payments, financed equally by the federal and provincial governments, totalled $52 million in the same year. It is not clear to what extent these benefits could be reduced if some new income supplementation scheme were introduced.

What it would cost

Zuker estimates that it would cost about $112 million to provide benefits of $2,000 per family plus $1,000 per child, with maximum benefits going to those families with incomes between $2,000 and $5,000. This estimate assumes 50 per cent of benefits would be taxed back from those families whose income exceeded $5,500. At a 33.3 per cent tax-back rate, the total cost would be about $164 million. But in any case, he says, some of the money now being spent on transportation subsidies might be much more beneficially allocated to Newfoundland through a low-income supplementation program.

"Simulating Some Income Supplementation Programs for Newfoundland," by R. C. Zuker. Discussion Paper No. 195.

Boosting productivity in services

Given the growing conviction that new technology can give a real boost to productivity in most industries, the recent interest in how Canadian companies are coping with technological change should come as no surprise. Most analysis so far though, has concentrated on the spread of technology in the manufacturing industries.

Many economists believe that the growth of the service sector of the economy may be contributing to Canada's poor productivity performance over recent years. There is also some feeling that the conventional productivity measures may not be appropriate for the service sector.

Simon Fraser University professor Steven Globerman says that a more fundamental issue is the need to determine whether slower implementation of new technology has contributed to productivity problems in the service industries. In a study prepared for the Economic Council he focuses on the largely unexplored area of technological change in the service industries and looks at how computer technology has fared in four service industries – libraries, hospitals, retailing, and wholesaling. Electronic data processing was chosen, the author says, as probably the single most important innovation for the service industries recently and because there are still plenty of opportunities to improve productivity in the service sector with computer automation.


National Film Board of Canada

High tech at the library

Finding out how rapidly the four industries picked up and assimilated computer technology, and why some were quicker off the mark than others, could provide a wealth of useful information to policy makers intent on solving the sector's productivity problem, Globerman says. Evidence that a firm's decision to innovate is influenced by its size, management, geographic location or need to compete, or even government measures now in force, could have significant bearing on future policy decisions.

Globerman's research has come up with some interesting results. To begin with, it is by no means clear, he says, that rapid adoption of new technology always pays off. Hospitals, for example, have hurried in the past to buy prestige equipment whose benefits may not have justified the costs. So studies showing that Canadian firms lag behind those in the U.S. in the acquisition of technology have to be interpreted with some care.

Nor, somewhat surprisingly, does the author find that big firms necessarily pick up and use computer systems faster and more effectively than smaller ones. Perhaps popular assumptions that the high cost of new technology makes it more accessible to large companies are over-rated, Globerman says. Or it may be that bigger firms lack some of the initiative of smaller ones. Where large industries predominate, he observes, competition may be limited, so there is less impetus to try out new ideas. Department stores in the Prairies, for example, have been slower to automate than those in other provinces where small department stores compete energetically with the big ones.

So Globerman found no grounds for encouraging increased size of firms or organizations in any of the four industries he surveyed. Yet policies nowadays tend to follow the theory that amalgamation of small service organizations will hasten the spread of technology. A much better approach, Globerman says, might be to make it easier for small firms to plug into part of a technological network, or use one element of it, such as mini-computers.

In the case of libraries, for example, only the very largest can afford the heavy costs of developing, maintaining and operating complex computer-based systems. In hospitals too, says the author, provincial ministries are far too committed to the concept of large technological networks, when mini-computers would be a boon to small and medium-sized hospitals.

Competitive conditions and managerial attitudes count a lot, Globerman's research seems to show. University libraries, for example, are more likely to pick up computer technology such as computerized check-out of books and microfiches, when the workload becomes heavier or when they have to compete with non-university libraries. And they are less inclined to do so the more the professional librarians – the managers – outnumber the clerical staff, perhaps because the former group see automation as a threat to their job security.

Providing libraries with an incentive to become more efficient – for instance, by allowing them to keep some of the savings they make through automation in their next year's budget – might improve the situation, Globerman says, as would giving small libraries the chance to automate economically.

In hospitals too, Globerman found management attitudes tended to hinder the spread of technology. Although using computers for hospital payrolls and billing systems definitely saves money and increases efficiency, hospital administrators often resist this innovation, perhaps because they don't like taking risks, and lack understanding of computing systems. Universal funding policies, which dole out money regardless of performance, may encourage inefficiency and penalize capable administrators. Instead, provincial policies should be providing hospitals with financial incentives for efficiency, Globerman says.

The Adoption of Computer Technology in Selected Canadian Service Industries, by Steven Globerman (Catalogue No. EC22-95/1981E; $5.95 in Canada, $7.15 elsewhere).

ENERG
What it means

Although economists are often accused of not being able to agree on anything, there is virtual unanimity in the profession right now that the future of the Canadian economy over the next decade will depend on energy.

The Economic Council itself, in its 1980 Annual Review described energy investment as about the only good thing the economy has going for it. But what if those energy projects don't materialize? Will Canada, dependent as it is on imported oil, still be subject to the vagaries of OPEC pricing, pushing the inflation rate even higher than it is now?

Will it be possible for Canada to become self-sufficient in energy over the next decade and what will happen if that goal of the National Energy Program is not achieved? Suppose that Canadian consumers resist the massive shift to natural gas and other forms of energy – a shift which is vital if the National Energy Program is to succeed?

One advantage of having an econometric model to play around with is that some or all of these possibilities in a variety of different combinations can be run through the computer to provide answers to economists and guidance to policy-makers. And earlier this year, the House of Commons Special Committee on Alternative Energy and Oil Substitution asked the Economic Council to check out how the economy would be affected if Canada were to reduce its dependence on imported oil over the next decade.

The Council's Performance and Outlook Group uses the CANDIDE econometric model to carry out this kind of investigation on a regular basis. Each year, in preparation for the Annual Review, Council economists outline a basic projection of the economy. Referred to as the "base case," this projection is then used as a reference point against which various policy options are tested. (In the previous issue of *Au Courant*, we reported on the spring update of this "base case," completed in May this year.)

Although the different energy scenarios were tested against the base case developed for the Council's 1980 Annual Review, they show very clearly how the Canadian economy is affected by this country's dependence on imported oil.

The simulations were carried out by Council economists Bobbi Cain and Haider Saiyed with the help of Patricia Nevin and Margaret Willis. They test out various combinations of demand, supply and price:

- Demand for oil could continue on the high side, increasing by just over one per cent a year over the next decade – about in line with assumptions made by the National Energy Board in its 1978 Oil Report. But if the National Energy Program's assumption proves correct, demand for crude petroleum will drop by about 2.6 per cent a year over the decade – the low-demand scenario.
- Three supply possibilities are considered: high demand would be met by developing western Canada's oil sands to achieve oil self-sufficiency; what would be the oil self-sufficiency requirements if low demand materializes; what would happen if, because of the legislative and political climate, all scheduled and potential oil sands projects are cancelled?
- Two possible world pricing environments are considered: the annual increase in international oil prices could be from one to one-and-a-half percentage points more than Canadian domestic prices; the real international price of crude petroleum could increase by seven per cent a year over the next ten years (implying that by 1990, the international price of crude petroleum would reach about $150 a barrel in Canadian dollars). The different assumptions about world oil prices are factored into the National Energy Program's blended pricing scheme which has consumers paying a price based on a combination of domestic wellhead price, transportation costs and petroleum compensation charges.

If Canada can reduce its dependence on petroleum, the economists say, the results will be beneficial to all sectors of the economy – especially if it can wean itself from its dependence on imported oil.

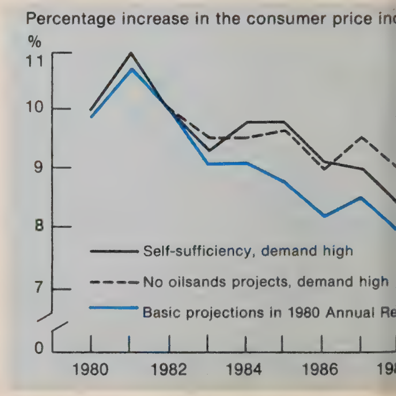
"The availability of domestic crude petroleum supply and the level of demand for that crude petroleum affects not only the more obvious factors such as the balance of payments and investment activity within the economy," the authors say, but also severely affects the level of inflation in Canada.

Their simulations show that "the configuration of supply and demand has major implications for the Canadian economy" especially given the energy program's blended pricing scheme. As a result of this scheme, international oil prices feed directly into Canada's inflation rate. "Our reliance on imported oil, priced at the vagaries of the OPEC cartel, is directly transmitted through price effects to every energy consumer in the country," say the economists.

"Our ability to reduce this reliance is directly related to our ability to reduce our thirst for crude petroleum and our ability to formulate an investment and regulatory climate conducive to increased energy production."

"An Exploration of Crude Petroleum Self-Sufficiency in Alternative Canadian Demand Environments," by Bobbi Cain, H. M. Saiyed, assisted by P. Nevin and M. Willis. Discussion Paper No. 198.

How the inflation rate would be affecte



POLICY
the economy

nada becomes -sufficient l...

ture at the end of the decade

f selected economic indicators for the year 1990

	World price low		World price high		Sudden price increase by OPEC	
	No large projects	Self-sufficiency	No large projects	Self-sufficiency	No large projects	Self-sufficiency
ce Index increase	8.3%	7.3%	10.4%	9.4%	8.9%	7.5%
nment balance plus) as a GNE)	–1.9%	0.8%	–6.6%	–0.1%	–3.5%	0.6%
ernment balances plus) as a GNE	0.7%	1.3%	1.2%	1.7%	0.9%	1.4%
nt of the balance deficit or surplus) ge of GNE	–3.0%	0.2%	–6.5%	0.1%	–3.2%	1.1%
hange from basic 980 Annual ands)	–910	+508	–205	–142	–805	–32

iency alternative includes the October 1980 budget's blended price for oil and pricing schedule for d therefore assumes that the federal government's contribution to the oil import subsidy program ted.

What will it take to make Canada self-sufficient in oil? If this country's needs for oil are to be met exclusively from oilsands production, there would have to be five new oilsands plants in operation by the end of the decade – and that would be in addition to the Alsands and Cold Lake projects now on the books.

Normally, it takes about six years to build an oilsands plant and bring it on stream and industry experts say that it would be difficult to speed up the process very much, even if oilsands production were considered a matter of national emergency.

In other simulations, carried out by the Council's Performance and Outlook Group for the Alternative Energy Committee, different ways of achieving oil self-sufficiency were looked at in conjunction with three different assumptions about world oil prices. Council economists tried out four possible degrees of oil self-sufficiency:

- Reaching self-sufficiency by 1990 solely through the development of western Canada's oilsands;
- Trade in fossil fuels could be in balance by 1990, through a combination of increased oilsands development and enhanced recovery activities;
- Oilsands projects now scheduled would be completed, giving at least some degree of self-sufficiency;
- Many scheduled and proposed projects might be cancelled, forcing an even greater dependence on imported oil.

On world oil prices, three eventualities were taken into consideration:

- World oil prices would increase by about one to one-and-a-half percentage points a year more than Canadian domestic prices over the next ten years. (The economists refer to this as a "real" price increase because it is over and above the general level of price increases);
- World price increases would average the same as in the first scenario, except that OPEC would impose a $15 a barrel real price increase in the price of crude petroleum in 1986, after which real price increases would again continue to average one to one-and-a-half per cent a year until 1990;
- The real price of international oil would increase by seven per cent a year over the rest of the decade.

Some of the results of the simulations are summarized in the table. One particular combination of possibilities appears to have a generally favourable impact on the economy. It assumes a blended pricing scheme for oil which would be sensitive to world prices because the domestic oil price would be a weighted average of import and domestic costs and would allow the phasing out of the federal contribution from general revenues to the oil import subsidy program. These assumptions are similar to the provisions of the October 1980 federal budget.

In combination with a low price for natural gas, and assuming oil self-sufficiency could be achieved, in this case through the construction of tar sands plants, the researchers list a number of favourable effects: there would be an investment boom in mid-decade; by 1990 Canada would have a stronger dollar; 1.8 million more person-years of employment would be generated during the decade; the contribution from general revenues to the subsidy program would be eliminated; all levels of government would have budget surpluses; and there would have been a considerable contribution to western development by way of large provincial surpluses in the West during the decade.

"It is clear that self-sufficiency in a blended price environment produces a large number of pluses," says the report. "The choice is obvious from these results. Implementing the choice is not easy." The Council economists point out that "it requires among other things some very hard decisions about revenue splitting between levels of government, and some very difficult resource boom management problems for the Western provinces."

"Canadian Crude Petroleum Self-Sufficiency in Alternative Domestic and International Pricing Environments," by Bobbi Cain, H. M. Saiyed, Ross Preston, assisted by P. Nevin and M. Willis. Discussion Paper No. 200.

Reforming Regulation

Transportation... trucking, railways...

From canoe routes, to railways, highways and airlines, the process of transporting goods and people across Canada's vast distances has determined much of our history and development as a nation. And Canadian governments have intervened with financial support and regulations to make sure national goals were met – whether that was building a national railroad, a transCanada highway or a national airline.

Many transport regulations have outlived their original purpose. They no longer contribute to national objectives, economic growth, or efficiency and are badly in need of reform, according to the Economic Council's report on government regulation of the economy.

Regulation of this sector of the economy is extremely complex because so many different kinds of transportation and different levels of government are involved. Transportation of passengers by air and rail is regulated by the federal government, but intercity buses come under provincial regulation.

Freight transportation by rail, air and water is largely subject to federal regulation, but trucking is regulated by the provinces. And transportation by taxis is generally subject to regulation by municipal authorities.

The early history of government regulation of transportation activity is one of giving subsidies and protection to new forms of transportation as they developed and of regulating the rates and service to be provided. Whether it was railways in the nineteenth century or Trans Canada Airlines in 1937, both fledgling services were provided with a virtual monopoly.

It wasn't until the early 1960s that policy makers acknowledged the need for basic changes in the process of regulation to meet the new competitive reality in transportation. After the report of the MacPherson Royal Commission on Transportation in 1961, some competition was introduced in many fields. But some regulations permitting reduced rates for specific regions and industries were retained. The Crow's Nest Pass agreement, for example, which dates from 1897 and is probably one of the best known and most controversial of such arrangements, provides for movement of grain from the Prairies at artificially low rates.

In this case, the Council says, maintaining low rates has just served to reinforce the disadvantages of moving grain relative to transporting bulk commodities such as coal, sulphur, potash and other minerals and concentrates that are more suited to rail transport. As well, the agreements have discouraged much-needed investment by the railways to expand and improve the efficiency of their grain handling operations.

On the other hand, 1967 changes in the Railway Act resulted in increased competition between rail and truck transport, bringing rail rates more in line with costs and giving shippers more incentive to offer new types of services. The Council says that the two major railways have continued to achieve an impressive rate of productivity growth.

The Economic Council's report on government regulation of the economy was published earlier this year. The highlights from that report, Reforming Regulation, *were presented in the last issue of* Au Courant. *On these eight pages, we present more of the Council's findings, along with reports on some of the research papers that were prepared as part of the study.*

But the mounting cost of special subsidies for favoured regions has resulted in economic losses and there is a powerful argument for changing the system, the Council says. The problem will be to carry out the needed reforms without being unjust to those who have come to depend on subsidized rates.

The Council recognizes the need to protect regions of the country where no alternative to rail services is available. It says the Canadian Transport Commission should be given "substantial freedom," in responding to requests for favourable rates and such requests should be settled as quickly as possible.

In these situations, decisions on particular rail freight rates should not be based on the "ambiguous" concept of public interest or on conformity to a restrictive formula, but on judgements as to the excessiveness or unreasonableness of a given rate compared with rates applying to similar services.

The Council would also like to see increased competition between rail transportation and the main alternative, trucking. The acquisition of trucking firms by railways should be carefully reviewed because this could seriously diminish such competition.

Regulation of trucking is more elaborate and more complex than almost any other kind of industrial regulation, the Council found. All provinces control entry, through licensing, into interprovincial trucking and all except Alberta control who will engage in trucking operations within their respective borders. The provinces generally extend exemptions from licensing requirements to private trucking, intraurban trucking and the initial for-hire movement of farm, forest and sea products.

Licensing restrictions in each province may extend to the kind of freight carried, routes followed, origin and destination of shipments, intermediate points served, type of truck used or frequency of service required.

These rules are administered and enforced by a separate authority in each province. It is estimated that the direct cost of applying for new licences and opposing applications of potential competitors runs to over $40 million annually.

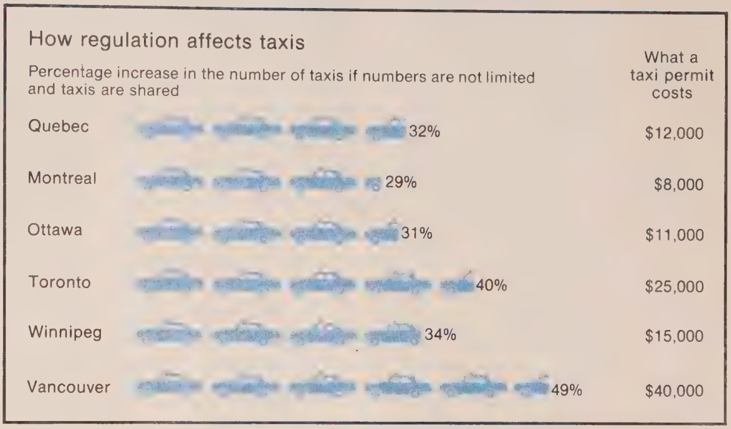
Because large firms are best able to bear the financial burden of the licensing procedure they can often develop an efficient routing system and overcome many of the inefficiencies resulting from licensing restrictions. The system therefore favours the growth and profits of large trucking firms at the expense of their small competitors. As usual, the user of trucking services bears the final burden of regulation, both in terms of cost and quality of service.

Existing restrictions on the operating freedom of trucking firms should be removed, says the Council. A more simplified licensing system is recommended that would still control entry to the industry but would increase competition and efficiency and lead to lower

costs. There should also be a relaxation of restrictions on trucking between corporations not in the trucking business so that more efficient use would be made of private trucking.

The Council says that a better way of regulating inter-provincial trucking would be to assign the responsibility to a permanent committee, representing all provinces and the federal government, and working under the auspices of the Canadian Conference of Motor Transportation Administration. Provincial boards would continue to control entry into intraprovincial trucking.

. . . and taxis



A common complaint about taxis is that you can never find one when you really need one.

Others see taxis as a wasteful form of transport that congests downtown traffic and wastes fuel, all for the benefit of a single passenger per ride.

The cause of these complaints, according to Council economist Benoît M. Papillon, can largely be found in the web of regulations that control the operation of taxis in Canada. In a paper prepared as part of the Economic Council's report on government regulation of the economy, Papillon finds that regulation restrains the expansion of taxi services and restricts their potential role as an essential component of urban transportation systems. It also works against the interests of the consumer and of drivers who rent taxis from fleet operators.

Papillon says that it is a common misconception that taxi services are a "luxury" mode of transportation, reserved for those earning enough to avoid buses and unwilling to use their own cars. Studies in the U.S. and Canada have demonstrated that taxis are in fact the sole possible recourse for a large number of people who don't own cars but need direct transportation from one doorstep to another.

Estimates for major U.S. cities indicate the majority of taxi users in 1972 came from families with incomes below $5,000 per year. Another study found that one-third of the regular taxi users in Winnipeg are elderly or handicapped.

Papillon concludes that despite its high cost, taxi service is becoming an indispensable way of getting around for a large element of the population who need a quick means of transportation operating with flexible schedules and routes.

Taxis, he says, are for many people – particularly the elderly, the handicapped and the poor – a necessary substitute for the private automobile and a much needed complement to urban mass transit systems.

Government subsidies for mass transit result in consumers paying only between 45 and 80 per cent of the real cost of the services provided. The users of taxis on the other hand bear not only the entire cost of the service but are subject to an additional charge brought about by the limitation of taxi licences, which creates high market values. New operators purchasing licences pass the market cost on to the consumer. This hidden charge can represent between 5.1 per cent (in Montreal) and 21.1 per cent (in Vancouver) of a taxi fare. This amounts to millions of extra dollars each year that consumers pay to taxi operators because of current regulations.

Papillon argues that despite heavy subsidies, the ability of mass transit systems to meet the needs of specialized groups of users is decreasing. At the same time the use of taxi transportation by these groups has increased even in the face of a hostile regulatory climate. He says that the cost of using taxis could be greatly decreased, and their use greatly increased, by basic changes to regulations controlling their operation.

Taxi services in most Canadian cities are regulated by local governments – usually through municipal commissions. Only Quebec has an overall law governing the regulation of taxis in its cities. And in Manitoba, the provincial government retains regulatory control over taxis in Winnipeg.

Although taxi regulations vary enormously across the country, nearly all have the same effect – they create monopoly situations by sharply limiting the number of cabs that may operate in any given area. Most also discourage the use of taxis by more than one passenger per trip, maintain fees at rates that far surpass the actual cost of the service and effectively limit the number of jobs available in the industry and the income of drivers who rent vehicles from taxi operators.

The result is high cost and inefficient utilization of taxi services.

Papillon calls for reform of taxi regulations to increase the number of taxis allowed to operate in any given area and for lower taxi fares which, he says, would increase demand for taxi services. The net result would be a more efficient service, greater employment in the taxi industry and a closer integration of taxi transportation with other forms of urban transit.

"Analyse du transport par taxi et de ses réglementations au Canada," by Benoît M. Papillon. Technical Report No. 9.

The environment

There is no time to be lost in dealing with the issues of environmental pollution, according to the Economic Council. Already, the damage caused by acid rain is so extensive that it is about to become irreversible unless regulation of sulphur dioxide emissions is enforced more firmly. And there are other environmental issues that still have to be addressed – the possibility of devastating accidents at nuclear power plants, the disposal of toxic chemicals and radioactive wastes, the potential danger to fish and sea mammal habitats from massive oilspills that could result from offshore oil wells, and genetic engineering as it may be applied to agriculture and forestry.

The Council's report on government regulation of the economy offers alternatives to the conventional approach to protection of the environment. It comes up with a system of financial incentives that it says would encourage firms to introduce cost-effective techniques for controlling waste and pollution rather than requiring them to meet specific technological standards that may not necessarily be appropriate for their operations.

Although all the evidence is not yet in on the effects of acid rain, the Council rejects the argument that sulphur dioxide emissions should not be regulated until complete knowledge is available. It also rejects the view that the immediate costs of reducing emissions are greater than the longer-term benefits of preserving the environment. And to those who claim that the cost of implementing effective pollution controls might make it harder for companies to compete in international markets, the Council points out that many of Canada's trading partners, including Japan, impose and enforce much more severe emission standards than Canada does.

Most of the capital investment in environmental protection projects has been funded by the public sector, the Council says. Although the pulp and paper industry reportedly allocated 13 per cent of total new capital investment funds to environmental projects, other industries have spent much less than this, in spite of "widespread support and declared intentions." And the proportion of business investment allocated to the environment in Canada is only about one-third of that in the United States.

Governments and regulators "seem to have made generous accommodations" for industry, the Council says. Although in most cases the law provides penalties for violation of pollution regulations, "most of the aggregate fines levied have been trivial." The system now in place results in a process of bargaining for compliance, where enforcement agencies use formal standards as a starting point for negotiations and then settle for a compromise that is reasonably satisfactory to both parties. The danger is that legislators try to satisfy their environmental constituents by "the symbolic act of passing tough-sounding pollution control legislation and then appease industry constituents by failing to enforce that legislation vigorously," the Council says.

". . .while Canadians desire a cleaner environment, they may not always want to bear the direct costs or incur the consequences in terms of price inflation and unemployment."

The Council suggests three possible approaches to improve the incentives for polluters to reduce their harmful discharges into the environment:

- There could be a system of discharge fees. Companies which pollute would be charged for doing so and the more they pollute, the higher the fee. The fees would have to be set in such a way that it would be cheaper to install pollution control equipment than to pay the emission fees.
- Emission permits could be distributed or auctioned to polluters who in turn could trade them in a market similar to a futures market. The system would be set up so that the total emissions permitted would not exceed what the air, water or soil in a particular region could absorb safely. Polluters who reduced their emissions could sell their excess discharge capacity to the highest bidder. This system would only work effectively if the polluters are located in the same area.
- A third possibility would be a penalty for delay in implementing pollution control. Under this system, each polluter would be given a schedule specifying the maximum allowable emission of a pollutant which would decline over time. If the polluter did not stick to the schedule for reducing emissions, an automatic penalty would be imposed.

Because there would be a number of practical problems involved in implementing any of these schemes, the Council suggests that the authorities consider pilot projects in certain airsheds or watersheds. Or there could be other devices such as subsidies and tax incentives to help control pollution as well as authority to impose heavy fines on polluters who refuse to comply with control orders.

The Organisation for Economic Co-operation and Development (OECD) has advocated the use of financial incentives in controlling pollution for some time now and the Canadian government has supported this stand. No matter how the costs are imposed, the Council says, the polluter should be the first to pay, though the principle is not violated if the costs are passed on in the form of higher prices, or shared with governments through subsidies and other encouragements.

The Council says that schemes which depend on market forces to allocate environmental resources "have remained largely on the shelf," seemingly because they are difficult to implement and because of the successful opposition of those who felt threatened by them. Industry officials don't like these schemes because they feel they would have to pay twice – they would have to buy a permit or pay an emission fee and they would also have to pay for pollution control installations. Environmentalists don't like the schemes either because they think the fee and permit systems sanction the right to foul the air and water.

The success of such schemes depends partly on setting standards at the beginning that are consistent with the estimated benefits of cleaner air and water. Those governments that have adopted them usually add them to the more traditional control regulations.

Whatever the mechanisms used, environmental issues are but part of a much broader panoply of social and economic concerns, the Council says. "For while Canadians desire a cleaner environment, they may not always want to bear the direct costs or incur the consequences in terms of price inflation and unemployment."

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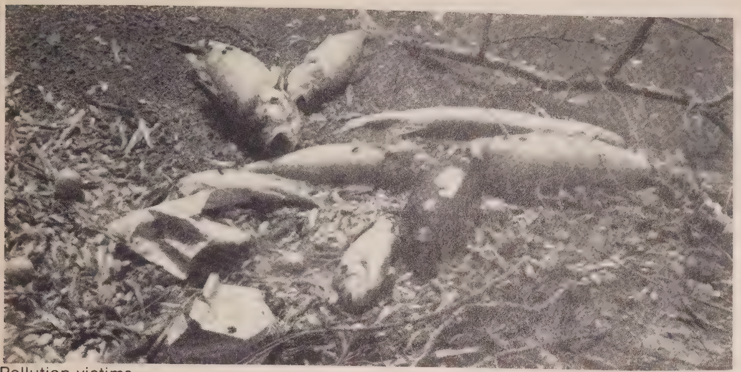


Pollution victims

Polluters to pay

It's difficult enough to deal with environmental protection and to develop regulations that will discourage industry from damaging the surrounding earth, air and water with harmful emissions and dangerous wastes. But what of the victims of pollution? Should they be compensated in some way? And if so, who should pay? Does society or the polluter have some responsibility to those who are harmed by pollution?

Over the past few years there have been several major incidents that have caused considerable alarm. Mercury pollution in the English-Wabigoon river system, Lake Erie and Lake St. Clair, the Love Canal case, dioxin contamination in Seveso, Italy, the nuclear power plant accident at Three Mile Island, and the Mississauga train derailment have highlighted the question of compensation and made it into a central issue of the environment debate.

In a study prepared as part of the Economic Council's work on regulation, John Swaigen, of the Canadian Environmental Law Association, advocates the establishment of a broad-based, comprehensive system for compensating pollution victims. Clearly it is unfair, he maintains, to compensate those who are run over by a car, or injured while helping the police to catch a criminal, or struck down by cancer as a result of some occupational health hazard, yet not to do anything for a person who is exposed to hazardous substances in the natural environment. "There is no real difference in principle in these cases," he says, "and there should be no difference in result."

The fact that we don't have such a system yet can be explained by society's ambivalance towards pollution, Swaigen says. Is it an inevitable by-product of a life-style from which most people benefit? Or is it a wrong for which the perpetrator should be held liable? So far, Canada does not seem to be able to make up its mind. But there does seem to be a world-wide trend developing towards the establishment of compensation mechanisms. Japan has more stringent liability provisions than any Canadian jurisdiction and the United States had proposed more stringent liability, but now that country seems to have backed off.

Swaigen says there is no evidence that general economic welfare would suffer if a compensation system were introduced. If industry were made financially responsible for compensating pollution victims, it would have to pay increased insurance premiums and might incur some liability for the uninsured portions of a loss, but there is no reason why industry could not shift this financial burden and no evidence that it would cause any undue hardship.

There are a number of ways in which such a compensation system could be set up. They range from forcing the polluter to pay the whole shot, to compensating victims from government funds. Swaigen favours a mixed system where the government would set up a compensation fund by imposing levies against industry. The right of individuals or the government to sue a specific firm for damage suffered could be retained under certain conditions. There are several features that could be included in the scheme:

- All industries could be required to pay a low basic levy – even those industries that appear to have little or no pollution potential. Substances believed to be harmless today may prove hazardous in the future, he says.
- Industrial sectors known to be creating higher risk might pay an additional levy to reflect this.
- Individual polluters who don't shape up, failing to comply with government standards or not installing proper pollution control equipment, might be required to pay a surcharge into the fund.
- Government could also contribute to the fund on the grounds that "since society benefits from having products and services that necessarily entail pollution, society should share the cost of compensation for pollution" – although Swaigen himself disagrees with this viewpoint.
- The victim could also be required to absorb some of the cost in the way that many insurance claims have a "deductible" amount. Here again, the author believes it is wrong in principle to expect the victim to absorb part of a loss he had no responsibility in creating.
- The victim could be given the option of suing the polluter directly rather than going to the fund for compensation, or the individual might be allowed to sue the polluter directly for any part of the loss or damage not covered by the payment from the fund.

Swaigen points out that the kind of mixed system he is advocating may not ultimately succeed or it may prove to be merely an intermediate step on the road to a fully-run government system that doesn't attempt to provide any deterrents to polluters. But he says that experience with fully public compensation schemes and social welfare schemes in other areas is far from encouraging. A direct comparison in the pollution compensation field is not possible because no fully public schemes exist. "It may not be the ultimate solution to the problem of providing compensation to pollution victims," he says, "but it is bound to be a vast improvement over the present regime."

Compensation of Pollution Victims in Canada by John Z. Swaigen. (Catalogue No. EC22-94/1981E, $7.95 in Canada, $9.55 elsewhere.)

Land development

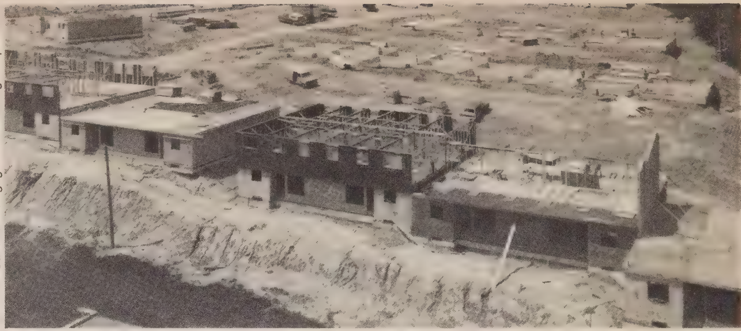
Perhaps the main reason why the Economic Council was asked to undertake a study of government regulation of the economy was concern about how regulation was affecting Canadian business. Business people themselves had lots of complaints about regulation, as the Council found out during the course of its work. They were particularly concerned about overlapping jurisdictions between different levels of government.

But one of the issues that came up over and over again – particularly from the small operators – was the problems they have had in coping with a multiplicity of land use regulations covering municipal development. Changes in zoning by-laws, difficulties in getting a building permit, delays in having development plans approved, clearance from provincial officials, all seem to have contributed to the daily frustration businesses have about duplication and overlapping jurisdictions.

There are more than 700 provincial laws regulating how land can be subdivided and developed and what may be built on it. And provinces are amending the existing laws and passing new ones all the time. Often a province will introduce as many as 100 new land use regulations in a year. And because local governments have the power to regulate property within their boundaries, there are literally thousands of local regulations dealing with land development, subdivision, building and ownership as well.

Developers complain that municipalities ask them to provide more and more services, expecting them to meet certain quality standards. The municipalities apparently believe that by insisting that quality services be installed during the development stage, they will be able to cut down on maintenance costs in the future. While the process does help to keep down municipal tax rates for existing homeowners, it adds to the developer's costs and makes new homes more expensive.

The builders aren't happy either. For some time now, they have complained about the lack of uniformity in building standards making it difficult for them to achieve economies of scale. Provinces have been able to make some headway in bringing various construction codes into line by using the National Building Code. But one result has been a trend to regulating aesthetics as well as architectural design.


Canada Mortgage and Housing Corporation
The high cost of development

The pattern of urban development has not exactly helped. As cities expand, they tend to absorb neighbouring communities, many of which may have different land use standards and practices. In an attempt to deal with the situation, some provincial governments have created regional administrations to cover several municipalities. The result has been to add another layer of decision-making and further delays to the process of approval of land uses.

As well, while provinces in the past may have been willing to hand over land use regulation to the municipalities, that trend has now been reversed. Increased public concern about the environment and aesthetic considerations has led the provinces to take more interest in regulating land use themselves and they have had to get more involved in any case to sort out the differences between adjoining municipalities.

The Economic Council found that the concentration of controls in provincial hands has tended to reduce the jurisdictional conflicts, but not the conflicts in objectives over such issues as land use inducements to industry, the provision of park sites, and the standards of municipal service installations required of developers.

In every province, urban growth has been marked by regulations designed to preserve aesthetic standards and the quality of the environment. But there has not been much debate about the objectives or the results, according to the Council. Criticisms have centred on the process itself and the higher cost of serviced land that results. And the delay involved in holding public hearings and interacting with community associations has added further complications.

"It is not at all clear where the balance of efficiency lies," the Council says. There is no doubt that delays in meeting and getting approvals have hurt some individual contractors and developers. But it is probably also true that "the standards of land use and building construction in most parts of Canada are considerably higher, and somewhat more costly, than might have been the case in a less regulated situation," the Council concludes.

The Council says that in looking at how overlap and duplication of regulations affect business, it singled out the urban land-use issue as an example where "delays, multiple permits, tiers of intervention, and overlapping sets of standards are rife." Yet even on this question, the Council says, "the process serves important objectives . . .what is required is the application of the scalpel rather than the axe."

How small business sees it

Government regulations don't seem to be imposing a crushing burden on small business. In fact, many small businesses will go to almost any length – within the law of course – to avoid regulations. But small business owners have plenty of complaints about the amount of paperwork that governments expect them to do and they are not too happy about the way many civil servants deal with them either.

Researchers Rein Peterson and Mari Peterson, in a discussion paper just published by the Economic Council, say that it is not the intent or the content of the regulations that are at fault, but the way the regulations are being applied. The people who do the regulating are often "too narrow in purpose," they have very little under-

standing of business so they don't seem to understand how a business will be affected by regulations and the paperwork they create. And in particular, they don't understand that regulations can have a different and often much greater impact on a small business than they do on a large company.

The paper, which looks at the impact of government regulations on small business (firms with less than 500 employees), was commissioned by the Economic Council, with the co-operation of the Canadian Federation of Independent Business (CFIB), as part of the Council's major study of government regulation in the economy. The authors interviewed 100 owners of small businesses, mostly in Ontario, and supplemented their detailed comments with answers from questionnaires mailed by the CFIB to its members last year.

"The regulations themselves are not unreasonable, but the attitude of the inspectors leaves very much to be desired."

Many of the owner-managers didn't really know how economic regulations affected them. And often they did not distinguish between economic regulations imposed by governments and restrictions imposed by other large organizations or the general taxation system to which they are subjected.

In fact, it seems, many small business owners don't understand the difference between paperwork and regulations and they apparently consider the distinction as being only of academic interest. Filling out forms, whether they have to do with employee deductions, sales taxes, income taxes or permits, takes a lot of time and can have a direct impact on net income. The researchers say that the level of awareness of regulations "appears to be directly proportional to the required paperwork and the enforcement and follow-up procedures being used."

And it was on the question of enforcement that most of the complaints came in. The way that civil servants deal with small business owners, the fact that big companies seem to be able to get away with things that small companies can't and the perennial question of overlapping jurisdictions and duplication of regulations all came in for criticism from those interviewed. Most of the small business owners had horror stories to tell about vague regulations being enforced by overzealous or poorly trained regulatory officers whose interpretation of the rules was never consistent.

As well, the researchers say, small business owners don't have the flexibility or the resources that big firms have in coping with regulations. Big business has "connections or lawyers or friends who have the right connections to make the difference, be it in terms of loans, zoning restrictions, interpretation of legislation or the right law firm." And because many of the regulations deal with labour or human relations, the relative cost to a labour-intensive small firm is higher.

Within the small business community the size of the firm did not seem to make much difference to the way a company is affected by regulation. However, companies with 100 or more employees seemed to be more affected by labour standards, zoning by-laws and transportation problems. And they were also the only ones to report significant problems with packaging labelling and health and safety regulations.

"If government is going to regulate they must be prepared to enforce regulations. It is the double standard which inconsistencies create that is my major criticism."

The researchers said they were surprised at the lack of complaints from small retailers. Sales tax was an issue and store hours a minor complaint, but generally speaking, there seemed to be few major regulations to complain about. Manufacturers, on the other hand, although they are subject to fewer regulations, seemed to have more complaints – probably because small-scale manufacturing tends to be labour intensive. Dissatisfaction centred on labour standards, hiring laws, labour relations, workmen's compensation and employee tax deductions. And manufacturers were the only group where a significant number of firms reported that Statistics Canada was a major nuisance to them.

In the service sector, construction companies, especially those that were what the researchers call "free enterprise oriented," were the most vocal group interviewed. They complained about permits, licences, union rules, the Labour Relations Act, building codes and by-laws (see previous page).

"We have to have regulations although industry is capable of policing itself. We are also kept in line by the competitive element. My big concern is what do regulations do for my business?"

The researchers caution that the interviews emphasized the problem of regulation and "paperburden" so the results may tend to "put a greater emphasis on the negative than probably exists in general." And, they point out they were only able to interview the "survivors". If there are small businesses which have had to shut up shop because the burden of regulation became too heavy, they would not have been included, and there is no way of knowing just how great their numbers are. Research in under-developed countries indicates that as regulatory pressure increases, small businesses tend to go underground and the researchers were not able to determine the extent to which this might be happening in Canada.

As far as what should be done about the problem that small businesses have with regulation, the authors say that further research is not really necessary. "Instead, we need to get on with the challenge of educating and informing individuals on all sides of the regulatory process." They have a number of recommendations to make in this respect: make regulators more aware of the impact they have on smaller firms; change the process by which regulations are made ("Why not consult with knowledgeable small business experts when conjuring up new regulations?" they ask); and establish mechanisms that ensure regulations remain consistent with prevailing government policies.

"The Impact of Economic Regulation and Paperwork: Is Small Business Being Crushed?" by Rein Peterson and Mari A. Peterson, Reimar Associates Incorporated, Working Paper No. 24.

Product safety

Exploding pop bottles, flammable nightclothes, harmful infant pacifiers and rattles, dangerous toys. Consumers today have a right to expect some protection against these and other hazardous products when they go shopping.

And government regulations do a pretty good job of providing it, by requiring products to meet certain standards, by calling for warning labels on poisonous or flammable substances, or by banning dangerous goods altogether, says Ronald Hirshhorn in a paper prepared for the Economic Council's report on regulation.

Consumers ran much greater risks in the market place before the passing of the Hazardous Products Act in 1969. Having the power to regulate the sale of hazardous or potentially hazardous goods through this federal statute has paid off for the public at large, as the steady decline in accidents involving consumer products bears witness. Officials at the Department of Consumer and Corporate Affairs, who administer the Act, have taken some important initiatives in areas hitherto inadequately covered by product liability law or manufacturers' voluntary safety rules, Hirshhorn says.

At the same time though, some of the department's activities raise serious questions – especially about some of the more costly regulatory initiatives on car seats and 1.5 litre bottles. Hirshhorn says that his studies suggest the department is putting too much emphasis on standards in some areas when an informational, educational approach would be more effective and less expensive to implement.

In some cases too, not enough thought is given to the costs of regulation and its far-reaching effects.

One of the best methods of calculating how successful various product safety measures have been, says the Council economist, is to weigh the cost of complying with them against the benefits they provide to consumers – by reducing the number of related accidents, for example.

Viewed in this light, a number of case histories that he studied show that goverment measures took the right tack in some instances – as in the regulation of certain products for infants and of poisonous substances, but apparently veered off course in others, most notably in attempts to regulate a standard for infant car seats and for soft drink bottles. These two cases in particular raise serious questions about the direction of departmental decision-making.

The long history of attempts to establish a reasonable standard for infant car seats has been dogged by controversy, confusion and expense. Queries have been raised regarding the testing methods used and the safeguards imposed. Critics claim, for example, that overly rigid standards have pushed prices sky-high and forced a number of perfectly acceptable car seats off the market. And the Consumers' Association of Canada has charged that the seat most used between 1975 and 1978 – as a result of the new regulations – is unsafe and collapsed in a series of independent lab tests.

What these concerns underline is the

Feedback on Council report

The findings of the Economic Council's study of government regulation of the economy stirred lively discussion at conferences held in Toronto and Montreal following the release of the report.

Jointly sponsored by the Economic Council and the Institute for Research on Public Policy, the conferences were intended to stimulate further discussion of the Council's recommendations and to give representatives of various industries, labour and government an opportunity to respond to issues raised by the report *Reforming Regulation*.

Special workshops, with guest speakers, were scheduled to discuss the main areas covered by the report, including direct economic regulation of transportation, telecommunications and licensed professions; regulation of common property resources such as fisheries, air and water; and social regulations such as those dealing with the health and safety of workers and consumers.

Reacting to the Council's recommendations in the field of transportation, Pierre Jeanniot, executive vice-president of Air Canada, rejected the approach taken in the report that regulations setting barriers to competition should be relaxed. Among its recommendations on air transportation, the Council had said that regulations protecting Air Canada should be eased to permit regional carriers to compete for routes.

"In Canada, we already have the lowest air fares," Jeanniot told the Toronto conference. "There is competition on almost all routes and the quality of service is high, which the report acknowledges. So why change things now?" he said.

Roy Pulsifer, of the United States Civil Aeronautics Board, said that with deregulation of the air industry in the U.S. "productivity improvements of between 20 and 50 per cent are in the offing, along with fare reductions of similar size." If Canada retains the status quo, Pulsifer said, lower fares in the U.S. will lure Canadian travellers to U.S. departure points.

Stephen Flott, executive vice-president and general manager of the Ontario Trucking Association, disagreed that the present regulatory system unduly limits competition in trucking.

The Council's conclusions were that the trucking industry in Canada is too strictly controlled by regulations governing entry into the business, fixing routes, and determining the type of truck used and other details. The net effect is waste and higher costs, said the report, and it presented proposals for liberating the industry from its present web of controls.

But according to Flott, "Anyone who uses this report for regulatory reform is using a fork to fill a pail of water."

However, R. B. Taylor of the Canadian Manufacturers' Association told the Toronto conference that the present trucking system "does not respond to our needs, or to those of the consumer," and that "the result has been a steady erosion of business from the for-hire trucking industry to various forms of private trucking." He endorsed the Council's call for increased competition as a cure for many of the trucking industry's ills.

Jacques Alary, vice-president of the Association du camionnage du Québec, told the Montreal conference that his organization favours a sane reform of regulations in its industry if it is done in a spirit of mutual trust rather than one of confrontation.


Seat safety

Linda Marchand, The Citizen, Ottawa

need for department officials to do their homework thoroughly before making decisions, Hirshhorn says. This case illustrates the need for more systematic analysis of the pros and cons of alternate ways of attacking the problem, and greater openness in the decision-making process. Yet another "must," he adds, is to have test procedures precisely specified so there is no confusion about whether or not a product meets government standards.

The saga of the 1.5 litre soft drink bottle, which exploded without warning on a number of occasions, again illustrates the need for more research and analysis at an early stage in the proceedings. In this case, Hirshhorn claims, officials acted far too precipitously and without thought to the consequences in abruptly banning the errant bottles, mainly in reaction to adverse publicity. Soft drink producers, who were given virtually no time to adjust to the new requirements, lost millions of dollars in equipment and sales – losses unjustified, as it turned out, by any real pay-off for the consumer. Hirshhorn calculates that the ban resulted in 443 fewer accidents a year, while regulation costs ran at $9.5 million – bringing the cost per accident prevented to a whopping $21,000.

Concerns expressed about the bottles were legitimate enough, Hirshhorn says, but more time should have been spent developing cheaper and more effective ways of eliminating the hazard. The department has now withdrawn the ban and implemented a new standard for 1.5 litre bottles.

Urgently needed now in the regulation of hazardous products, Hirshhorn concludes, is a more systematic process for identifying important product hazards, more thorough cost-benefit analysis, and a broader perspective that would take into account all the options that are available to reduce risks to the consumer.

"Product Safety Regulation and the Hazardous Product Act," by Ronald Hirshhorn. Technical Report No. 10.

The power of agricultural marketing boards to determine supply and set the price of their commodities in the dairy, egg and poultry industries came under criticism in the Council's report. Though strongly supportive of marketing boards as forces for stabilization and efficient production the Council recommended that supply management powers be gradually reduced. The net effect, said the report, would be lower quota values, lower prices to consumers, increased demand and freer entry into farming.

Doug Fleischmann, president of the Grocery Products Manufacturers of Canada, endorsed the findings of the study in the area of marketing boards and proposed that the federal government declare a moratorium on the creation of new supply-management marketing boards.

The existing price-setting boards are limited to a few commodities but they represent a large slice of receipts from farming, he said. "In 1978, supply-management marketing boards accounted for 42 per cent of all receipts passing through marketing boards and 24 per cent of all farm receipts."

The present system results in higher costs to processors and therefore to consumers, "over and above the market equilibrium price," he said.

But the most telling criticism against such boards, Fleischmann said, is that "the transfer of income from consumer to producer does not so much benefit the low-income farmer as it benefits the largest producers." Income support based on production levels only accelerates income inequities, he said.

Pierre Gaudet, president of the Union des producteurs agricoles du Québec, told the Montreal conference that the Council's report measures marketing boards against a unique standard that is not applied to any other sector of the economy. The report criticizes farmers for controlling supply and setting prices, he said, but ignores the existence of a similar system among large, private enterprises. The report ignores or minimizes the contribution of marketing boards to stabilizing farm incomes, efficiency of production and price stability, he said.

Pierre Tremblay, chairman of the Chambre de Commerce du Québec, said in Montreal that his organization supports the report but differs with the timetable for implementation of its recommendations.

The process of reforming regulation should be phased in over a ten-year period, he said. He outlined the steps for reform proposed by his organization as: a freeze on any new economic regulation, followed by deregulation of selected sectors of the economy and, finally, the simplification of remaining regulations.

A speech by Treasury Board president Don Johnston summarized the federal government's immediate response to the report. The speech was delivered at the Montreal conference by the minister's parliamentary secretary, Serge Joyal. The federal government hopes to begin the process of reforming regulation, he said, by ridding itself of about 120 obsolete laws within the next year.

André Raynauld, former chairman of the Economic Council and a professor of economics at the University of Montreal, repeated a quote from John Kenneth Galbraith to the effect that all modern economic systems composed of large units of production must be regulated.

He warned participants at the Montreal conference against the possibility that the process of reforming regulation may lead to an inadvertent increase in regulation.

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Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has provided Canadians with an ongoing analysis of the economy, looking at economic policies and the effect of possible alternatives on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a significant role in public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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au courant

Economic Council of Canada

Volume 2, No. 3 1982

New policy options for economy

Tax breaks on retirement savings

Council studies labour markets

Productivity of doctors

PUBLICATIONS

Eighteenth Annual Review

Room for Manoeuvre (EC21-I/1981E, $4.95 in Canada, $5.95 elsewhere).

Each year the Economic Council publishes a review of the economy and makes policy recommendations. With the help of the CANDIDE econometric model, Council economists develop basic projections of key economic indicators, and they try out various policy options. The 1981 review is now available in bookstores across the country, and may also be ordered from the Canadian Government Publishing Centre (see below).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research studies have been published since the last issue of *Au Courant*.

Farm Incomes in Canada, *by George L. Brinkman* (EC22-97/1981E, $7.95 in Canada, $9.55 elsewhere).

The Public Regulation of Commercial Fisheries in Canada, *by Anthony Scott and Philip A. Neher, Editors* (EC22-98/1981E, $5.95 in Canada, $7.15 elsewhere).

Ex Post Aggregate Real Rates of Return in Canada: 1947-76, *by A. Tarasofsky, T. G. Roseman and H. E. Waslander* (EC22-99/1981E, $4.95 in Canada, $5.95 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 205 "Provincial Variations in the Productivity of Physicians in Canada, 1974-1976," *by Ludwig Auer and John Menic*.

No. 206 "The Effect of the Canada Pension Plan on Personal Retirement Savings: Some New Evidence from Cross-Section Tax Data," *by Michael J. Daly*.

No. 207 "Women and the Labour Market: An Analytical Framework," *by Jac-André Boulet and Laval Lavallée*.

No. 208 "Les femmes et le marché du travail : Un cadre analytique de recherche," *by Jac-André Boulet and Laval Lavallée*.

How to order

The research studies and annual review listed above are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

The discussion papers are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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au courant

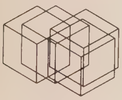
Volume 2, No. 3 1982

Eighteenth Annual Review

Results of the Council's review of the Canadian economy for 1981 are highlighted:

Reforming Regulation

More reports resulting from the Council's three year study of government regulation of the economy:



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ISSN-0226-224X

New projections for economy from Council's 1981 annual review

Each year the Economic Council of Canada publishes a review of the economy and makes policy recommendations. With the help of the CANDIDE econometric model, the Council's Performance and Outlook Group, under the direction of Ross Preston, develops basic projections of key economic indicators and then tries out various policy options to see how these projections might change. The material on the next eight pages is based on the 1981 Annual Review, "Room for Manoeuvre."

Canada's economic problems may not be as stubborn and unmanageable as everyone has thought. It now looks as if the federal government could develop effective policies to deal with the legacy of the 1970s and get the country back on a better growth path again. And it may even be possible to make more headway in the war against inflation if monetary policy does not have to fight the good fight all on its own.

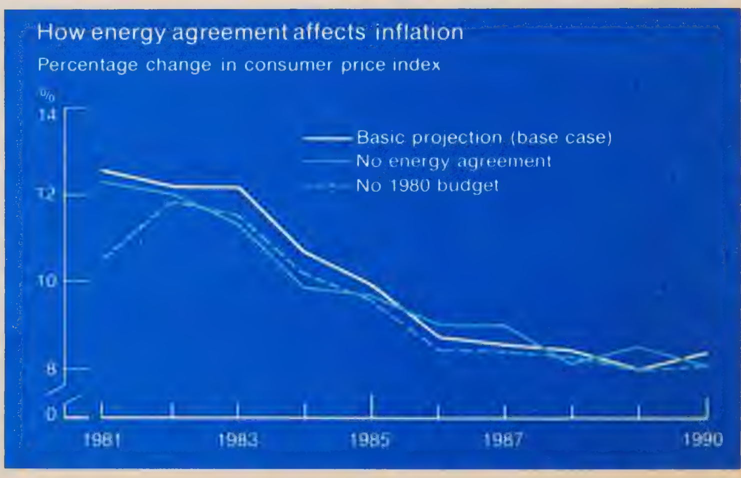
The note of optimism which is evident in the Economic Council's eighteenth annual review of the Canadian economy springs from the belief that the government now has more room for manoeuvre. And the opportunity is a direct result of the National Energy Program (NEP), launched with the October 1980 federal budget, and the signing of the Memorandum of Agreement on energy pricing and taxation between the governments of Canada and Alberta in September last year.

These two events, the Council says, changed the prospects for many key economic indicators. Although the energy agreement will increase inflation in the short term, the national energy program supported by the energy agreements will bring about a considerable improvement in the federal government's fiscal position and the problem of the federal deficit may no longer have to be the overriding policy consideration. The government should therefore be able to develop a strategy to tackle the country's two major economic ills – high rates of inflation, and an output level that is below the economy's potential.

As in previous years, the Council makes a basic projection of the key economic indicators, which it calls the "base case," founded on certain specific assumptions. It then uses this basic projection to try out various policy options to see how the economy would be affected by the different policies that might be chosen. The 1981 "base case" indicates moderate prospects for real economic growth and for employment during the 1980s; inflation getting worse for the next few years but improving somewhat by the middle of the decade; and a significant change in the outlook for the federal government's budget position compared with the previous year's assessment.

The assumptions on which these projections are based include an assessment of the impact of current monetary, fiscal and energy policies (including the September agreement between Ottawa and Edmonton), as well as the impact on Canada of many facets of the supply-side economics being implemented by the Reagan administration in the United States. It also includes an up-to-date reading (as of July 1981) of the prospects of Canada's major trading partners. Monetary policy in the U.S. is expected to remain very tight until the end of 1983, resulting in a period of unprecedented high short-term interest rates. By the end of the decade, these rates are expected to be down to the 10.5 per cent range.

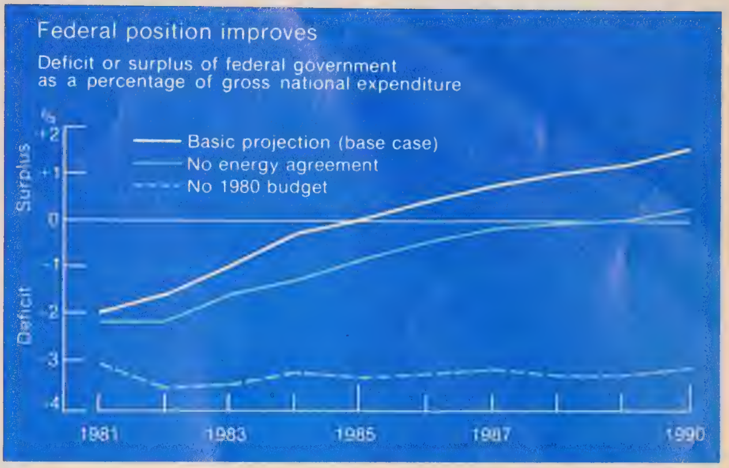
The international price of oil is expected to reach $102 a barrel (in Canadian dollars) by the end of the decade. But the Council does not share the optimistic view of the national energy program that consumers will



quickly switch to natural gas or electricity, thus eliminating the need for imported crude petroleum by 1990. As a result, Council economists say, the demand for oil will not decline as rapidly as expected in the National Energy Program. This, together with a slow start-up for the tar-sands projects will delay the achievement of oil self-sufficiency beyond 1990, according to the Council's calculations.

The "base case," then, reflects what lies in store for Canadians if there are no major changes in policy. The CANDIDE econometric model is then used to simulate how those prospects would change if particular policies are adopted.

Here are the highlights of the 1981 review's basic projections (what the economists call their "base case"):



- Phasing in of the large energy projects in the early years of the decade will result in higher real growth in the period from 1983 to 1986 and slower growth later. But compared with the 1960s and early 1970s, growth prospects are expected to be lower by about 1.2 percentage points. Performance could be improved if other large investment projects materialize, particularly later in the decade.
- Inflation (measured by the consumer price index) is expected to be in the double-digit range for the next three years, but will be down to about 8 per cent by the end of the decade.
- Strong real growth in the early part of the decade will make a dent in the unemployment rate, but the labour force will still be growing strongly so jobless rates could be on the rise again as Canada approaches the 1990s, unless additional projects are initiated.
- Productivity performance will not be good and will be substantially below the Canadian experience of the late 1960s and early 1970s. This is one of the more fundamental aspects of the legacy of the 1970s – although productivity growth may start to improve towards the end of the decade.
- There will not be much improvement in real wages in the first half of the decade – another legacy from the 1970s – but the situation looks better after 1985.
- Implementation of the National Energy Program and the energy agreement will contribute to a decline in the federal deficit. Provincial governments as a whole are expected to remain in surplus throughout the decade. But performance at the provincial level depends on the assumption that the renegotiated fiscal arrangements between the federal government and the provinces will not differ substantially in scope and funding levels from the existing agreements.

Because the National Energy Program and the energy agreement between the federal government and Alberta play such a key role in giving the government more room for manoeuvre, Council economists carried out simulations to see what might have happened to the economy if these two events had not taken place. The results indicate that the September agreement on energy pricing and taxation will increase inflation, particularly in the next few years, and improve the budget position of the federal government. It will also reduce slightly the surplus of the provincial governments as a whole. The National Energy Program, which was part of the budget of October 1980, tended to reduce growth, to increase inflation and to make a dramatic improvement in the fiscal position of the federal government. The burden of financing the subsidy on imported oil for consumers in eastern Canada and the subsidy on synthetic oil was gradually switched from the federal government to consumers themselves.

But there have been other changes since the Council's 1980 review of the economy. For one thing, U.S. monetary policy has continued to be very restrictive and this has had quite a major impact. Interest rates turned out to be much higher than first expected, and the U.S. economy is now expected to put in a rather stronger performance than before. The 1980 annual review did not anticipate the weakening of world oil prices that resulted from the 1981 glut on world oil markets. The end result is a cumulative slowdown of 3.2 percentage points in real economic growth in Canada between 1981 and the end of the decade – a good deal of it associated with a reduction in investment activity.

The anatomy of inflation

The two major economic ills with which government policy must now deal are inflation and low economic growth. Council economists ran various simulations to try to identify the main reasons for the persistent high inflation that is expected for the next few years. They concluded that while there may be many reasons for the current high inflation rate in Canada, the most important influences in the coming decade will be inflation rates in other countries, wage and price expectations at home, productivity performance and the direction of energy prices.

The economists estimated the impact of seven possible scenarios on their basic projections for the economy and asked the question: What would happen to the inflation rate if:

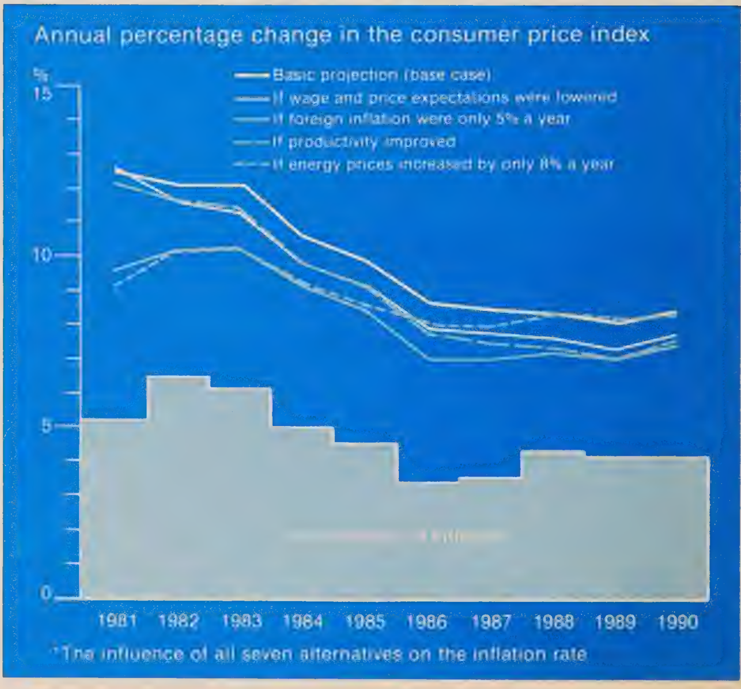
- Foreign inflation turned out to be lower than expected – suppose that it averages only 5 per cent a year?
- United States monetary policy becomes less restrictive so that U.S. interest rates are 3 percentage points lower than the basic projection assumed?
- The Bank of Canada tightened up its monetary policy more than expected so that the money supply grew at only 4 per cent a year instead of at 6 per cent?
- Productivity performance turned out to be better than expected?
- Labour markets were not as tight as projected so that the unemployment rate averaged 6 to 7 per cent instead of just below 6 per cent for the decade?
- Energy prices increased in line with all other prices – at about 8 per cent a year – instead of at a faster rate?
- Wage and price expectations changed so that people were not anticipating quite such high rates of inflation.

Although each one of these alternatives has some impact on inflation, the economists wanted to find out what was the influence of all the seven factors together. Through this analysis, they were able to identify what they called "the anatomy of inflation." The conclusion was that if all of those changes occurred at the same time, the Canadian inflation rate would be cut in half compared with the basic projection (which assumed no change in current policies.) The Council cautioned however, that this type of analysis probably underestimates the significance of monetary policy in the control of inflation.

To get inflation down to a rate of 4 to 5 per cent by the end of the decade would require much lower U.S. interest rates; money supply in Canada growing at around 4 per cent a year (the low end of the Bank of Canada target range); maintaining slack labour markets – in other words, higher unemployment; lowering expectations on incomes; better productivity growth; and domestic energy prices being kept in line with other components of the consumer price index. Some of these changes, such as U.S. interest rates, are outside Canadian control; others, like higher unemployment carry a high social cost; and in the area of energy pricing, the requirements would run counter to current policy directions.

That being the case, can inflation be reduced? The Council says it can, especially if other policies are brought into play instead of relying on monetary policy alone. "Certainly, a determined, persistent tight monetary policy will reduce inflation," says the Council, but "this process is widely recognized as entailing long delays." And the damaging effect this approach had on growth and employment opportunities in the past is well-documented. "Because inflation is the sum total of a variety of factors," says the Council, "what is needed is a broad approach to its solution, with less reliance upon a single policy."

How the inflation rate might change



Annual percentage change in the consumer price index

*The influence of all seven alternatives on the inflation rate

New techniques for trying out policy options

"Significant improvement in Canada's economic performance can be achieved by changing the policy mix and making vigorous use of a variety of policy levers," says the Economic Council in its 1981 review of the Canadian economy. The monetarist prescription for solving Canada's economic ills now needs to be supplemented by other medicine, but the dosage need not be unpalatable. And now that the federal government seems to have more room for manoeuvre, other policy choices are open to it.

In the latter part of the 1970s, the main weapon used by many countries in the war against inflation was monetary policy. There was a strong feeling that the traditional armory of fiscal policy could not produce much of value to the battle and that, in any case, there were so many tradeoffs involved that it was just unrealistic to expect that all the objectives of economic policy could be met.

Economists at the Economic Council have used some new techniques to see just what those tradeoffs might be and what might be the rewards or penalties for achieving or missing the objectives that have been set. The results show that it is indeed possible to cope with such problems as inflation and economic growth, or inflation and the government deficit, at the same time, but it is going to require some major changes in the current mix of policies.

The basic projection for the economy over the next decade was made on the assumption that policies in effect in the fall of 1981 would not change. The results were not altogether discouraging. It would certainly be better if Canada could achieve a combination of lower rates of inflation and unemployment, higher rates of real growth and productivity, and further improvement in the fiscal position of the federal government and some of the provinces. The Council believes that it is possible to achieve these goals without deviating from the money supply targets of the Bank of Canada, without necessarily increasing the federal deficit or the deficit on the current account of the balance of payments, and without reducing the funding of social programs.

How can it be done? To figure that out, Council economists turned the traditional economic projection exercise on its head. First they chose a broad strategy – for example, one in which the two main objectives are to control inflation and to reduce the federal deficit. Then they selected five major economic indicators – the inflation rate, the federal deficit, the unemployment rate, the growth of demand for goods and services (real gross national expenditure), and the current account of the balance of payments. For each of these, they set targets consistent with the achievement of the objectives. Inflation should average no more than 8 per cent a year over the next four or five years, say, unemployment should average 6 per cent a year, and the total level of demand in the economy for goods and services (gross national expenditure) should increase at about 3 per cent a year, after allowing for inflation. In addition, they set limits for the growth of the money supply.

Output gap

Most economists are agreed that the Canadian economy is not achieving its potential – that is, the level of output that could be produced without creating undue inflationary pressures in the economy. There is perhaps less of a consensus on how to measure just what that potential is.

The Economic Council's 1981 annual review predicts that the gap between actual and potential growth will average $7.8 billion a year (in 1971 dollars) for the first half of the 1980s and $10.5 billion a year in the second half. The Council says that the persistence of the gap gives cause for concern and that action should be taken to correct it.

Having set these targets, the next step was to see what combination of policies would bring the economy closest to the targets. For this purpose, they examined five possible combinations – these are the policy levers referred to earlier. In each case, the projections arising from the basic set of projections (the base case) were changed in order to come as close as possible to achieving the targets. The analysis was made on a step by step basis, starting out with one policy lever, adding a second and then a third and so on:

- First, government spending on goods would be changed. (There would be no change in defence spending or on federal transfers to other levels of government or to individuals);
- Then in addition to the above change, changes would be made in indirect taxes, such as sales taxes;
- The next step would be to change corporate tax rates as well;
- As well as the above three initiatives, there could be changes in personal income taxes to help in achieving the targets;
- Finally, monetary policy could be eased slightly, but it would still remain within the Bank of Canada's target range for money supply growth, so it would not get too far out of line with the monetary policy being followed in the United States, and so there would not be undue pressure on the exchange rate.

Setting targets and identifying policy levers is traditionally an element of economic policy - making. The new element introduced here is the idea of examining a particular overall strategy and considering what policy mix might be used to implement it. Determining what might be the preferred strategy is really a question of political judgment – a decision as to what path might best meet society's needs, desires, capabilities, and constraints, as they are perceived through the political process.

Council economists examined in detail two possible strategies to see what policy mix would be necessary to achieve the objectives and what would be the impact on the economy of pursuing these particular goals. The first strategy concentrates on controlling inflation and reducing the federal government's deficit; the second strategy focuses on fighting inflation but at the same time stimulating economic growth, rather than making the reduction of the federal deficit a priority.

The results on this analysis are presented on the next two pages.

Policy options

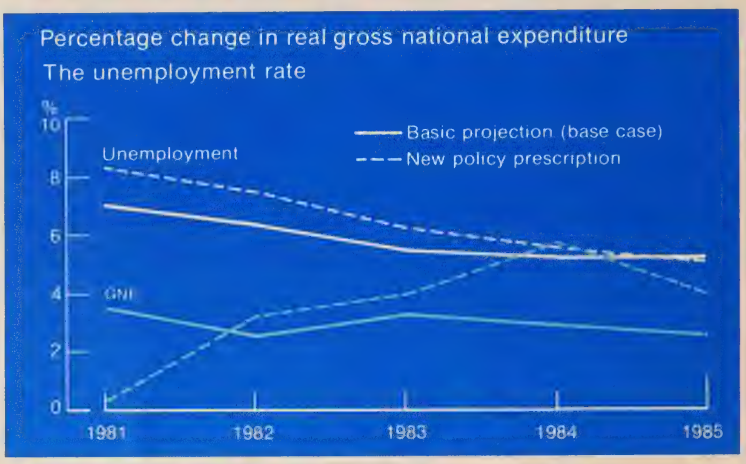
Council economists analysed two possible overall strategies for the economy. In the first one, they assumed that the main objectives would be to control inflation and to reduce the federal government's deficit as quickly as possible.

The goals established for this exercise were to keep inflation down to an average of 8 per cent a year between 1981 and 1985, and to balance the budget of the federal government on average in the period from 1981 to 1985.

Targets were also set for other economic indicators, even though these were not to be the main focus of economic policy in this particular strategy. For the period from 1981 to 1985, these targets were:

- Real economic growth (after allowing for inflation) of 3 per cent a year – a rate consistent with the estimate of growth potential;
- An average unemployment rate of 6 per cent a year;
- Money supply growth that would be in line with the growth of gross national expenditure – that is, 3 per cent real growth plus 8 per cent inflation. This would give a maximum rate of growth for the money supply of 11 per cent a year, assuming there is no increase in the speed with which money changes hands (the velocity of circulation). If the velocity of circulation increases, this money supply growth target would have to be lower;
- The current account of the balance of payments would be in balance during the period 1981 to 1985.

Controlling inflation and reducing the federal deficit



The cost of eliminating the federal deficit quickly turns out to be very high. Unemployment would rise to 8.4 per cent of the labour force in the early years, compared with 7.1 per cent in the basic projection of the economy (the base case), there would be considerable loss of jobs and the gap between actual and potential growth might widen.

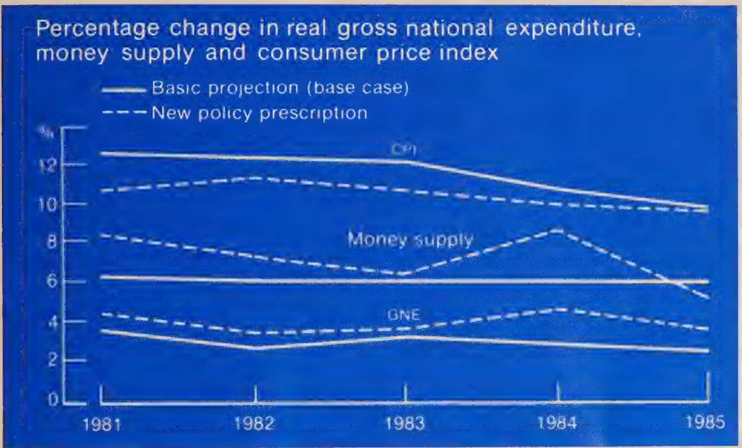
In looking at the five policy packages (outlined on page 6), here is how the basic projection would have to change to achieve the established targets:

- Government spending on goods would have to be reduced: indirect taxes would be reduced and so would corporate taxes; the growth in the money supply would increase slightly to give lower interest rates; and personal income taxes would have to be increased substantially.
- It will be hard to reduce inflationary pressures within Canada. In the short term, cutting indirect taxation on goods not related to energy might make a dent in the inflation rate. In the medium term, inflation might be controlled by encouraging investment in plant and machinery which would lead to improvements in productivity.
- According to these simulations, monetary and fiscal policy together would lower the inflation rate by only about 2.3 percentage points by 1983. Instead of a rate of 12.2 per cent projected in the base case, inflation could be reduced to about 9.9 per cent.
- Personal income tax rates would have to increase by an average of 25 per cent during the period from 1981 to 1985, to levels which, the Council says, most people would find politically unacceptable.
- As a result, a total of $9.6 billion of demand for goods and services (real gross national expenditure) would be lost over the five-year period. There would also be a cumulative loss of 1,215,400 person-years of employment.
- The higher personal taxes which would be needed to reduce the federal deficit quickly would mean a drop in the personal savings rate from 9.5 per cent of disposable income (projected in the base case) to about 7.4 per cent.

Summarizing the results of the exercise, the Council says that effective policies to improve Canada's economic performance will have to operate on both the demand and the supply side of the economy; otherwise, distortions will result.

Some people have argued that an easier monetary policy is inconsistent with the need to stabilize the dollar and control inflation, particularly in the short run. While acknowledging that there may be short-term constraints on monetary policy, the Council says that its results indicate that "greater emphasis on a different mix of fiscal policy could relieve monetary policy of some of the burden in this area, provide a much better performance in the achievement of inflation control and deficit reduction, and yet not deviate much from the mid-point of the target band currently established for monetary aggregates by the Bank of Canada," in the medium term.

Controlling inflation and improving economic growth



The fiscal position of the federal government is already well on the way to recovery as a result of the National Energy Program and the agreement between Alberta and the federal government, signed in September last year. In view of these developments, it might be more appropriate to choose a policy strategy that would give less emphasis to the federal deficit and concentrate more on closing the gap between actual and potential output – that is, the level of output that could be produced without creating undue inflationary pressures in the economy. This policy objective was, in fact, part of the second strategy that Council economists analysed in detail in the 1981 annual review.

The first step was to find out what level of demand for goods and services (gross national expenditure) Canada might realistically achieve by 1985. But there was already a gap of about $8.8 billion in 1971 dollars between actual and potential output in 1981. Suppose this gap were closed and the economy could start out the decade at a higher level of output. Having moved up on to a new higher path, suppose that the rate of growth from that point then continued to average 3 per cent a year. The result would be a particular level of output which the economists would like to reach by 1985. They then set a target of more rapid growth in actual output so as to close as much of the gap as possible by 1985, keeping in mind that it may not be possible to close the gap completely and still attain the other policy goals.

In addition, they assumed that unemployment would average about 5 per cent a year. In effect, this becomes "full employment" because at this lower unemployment rate, the resources of the economy are "fully employed" and further attempts to reduce unemployment would only increase inflation.

This is how the various policy levers would have to be adjusted from the basic projection to meet the objectives of this strategy:

- Indirect taxes and corporate taxation rates would be reduced;
- Government spending would remain unchanged;
- Personal taxation rates would increase only moderately, perhaps by about 6 per cent during the period from 1981 to 1985;
- Money supply growth would have to increase early in the period to the upper end of the Bank of Canada's target range so that interest rates could be lowered.

The results of the exercise may be summarized as follows:

- The changes in taxation would probably add about one percentage point to the real growth rate and close about 80 per cent of the gap between actual and potential output by 1985;
- The inflation rate would only be about one percentage point a year lower than projected in the base case;
- The unemployment rate could be brought down to 4.1 per cent by 1985;
- Lower interest rates would encourage investment activity. But lower interest rates and higher economic activity would also tend to weaken the Canadian dollar and add to inflationary pressures in the economy.
- Lower rates of corporate taxation would encourage investment activity, improve productivity and thus eventually tend to reduce inflationary pressures in the economy;
- Initially, the federal deficit would increase. And even if short-term interest rates were lowered by 2 to 3 percentage points, the deficit would still increase in the longer run.

In this strategy, as in the previous one, the question of monetary policy was examined very carefully. It had already been argued that if the mix of fiscal policy were altered and this, by itself, improved the inflation outlook, it would be reasonable to relax monetary policy. If reduction of the gap between actual and potential output were a priority, then allowing the money supply to grow at a higher rate and reducing interest rates might be appropriate. However, it would also be possible to achieve the same end by accepting a higher federal deficit.

In the early years of the decade, according to these simulations, the rate of growth in the money supply would be at the high end of the Bank of Canada's target range and in some years, it would slightly exceed this limit. It is only when the economy gets close to potential that growth in the money supply would fall back towards the low end of the Bank's target band.

Major change needed in economic policy mix

It will take a major change in the mix of economic policy to bring inflation under control and improve the real incomes of Canadians at the same time. But the Economic Council believes those objectives can be achieved and that the necessary policy changes should be made.

Such a change in policy mix would *not* mean abandoning the present monetary policy, which over the past few years has had to shoulder most of the responsibility for controlling inflation. But it would mean reinforcing monetary policy with tax and expenditure policies that would act on the supply side of the economy as well as on the demand side. And the emphasis on restraint of government spending would have to be maintained.

In other words, Canada has to be prepared to use a wider range of policy measures than it is using at the moment if it is going to control inflation and restore real growth.

The message of the Economic Council's 1981 annual review of the economy, which went to press before the release of the federal budget, was that economic policy should now concentrate on reducing inflation and restoring economic growth. Both of these objectives, the Council said, can be achieved without abandoning the present commitments to social programs. And, in fact, unless the economy gets back on a higher real growth path, government will find it difficult to maintain, let alone increase the real resources devoted to such programs in the 1980s.

At least some of the obstacles to such a shift in policy have been removed recently. The National Energy Program and the agreement on energy pricing signed between Alberta and the federal government last fall have opened the way to a considerable improvement in the federal government's fiscal position and given it more room for manoeuvre. But if the change in policy is going to be effective, it will have to be accompanied by a change in some of the perceptions about the economy.

Public discussion still centres on the federal government's deficit, for example, although the base case shows that there will probably be a substantial reduction of that deficit over the next few years, both in absolute terms and in relation to the country's total output of goods and services, the gross national product.

Many people seem to feel, too, that Canada has lagged behind the United States in developing policies to deal with difficult economic problems. But many of the elements of the supply-side economics recently introduced in the United States are already in place in Canada. Cuts in personal income taxes (Canada already has indexing of the personal income tax system which produces the same effect), increased capital cost allowances, and emphasis on savings incentives are all policies with which Canada is familiar.

> *"We believe that in the present context of high and stubborn inflation, the indexation of personal income taxes continues to offer distinct advantages. Certainly it imposes a discipline on governments, by forcing them to rely on discretionary tax increases rather than inflation in order to raise revenues, thus keeping the public more aware of government policy."*

Perhaps these policies have not been as effective as they might have been because of uncertainty over energy policy. But those uncertainties have been removed now. The change provides "a unique opportunity for instituting a range of new policy measures aimed at achieving a significantly stronger and more balanced economic performance than that which would result from a mere continuation of the present policy mix."

Perhaps most important of all, attention has to be focused on fiscal and monetary policy together and how they interact and relate to each other on both the demand and supply side of the economy, instead of concentrating on individual policies in isolation.

To put in place a strategy that would control inflation and improve economic growth would require reduced indirect taxation of non-energy goods and services, reduced rates of corporate taxation, continued restraint on federal government spending, and money supply growth close to 8 per cent a year, or the high end of the Bank of Canada's target range. This latter measure would suggest that domestic short-term interest rates should be about 2 or 3 percentage points lower than those of the base case. Depending on the importance given to reducing the federal deficit, personal income taxes might have to be increased slightly too.

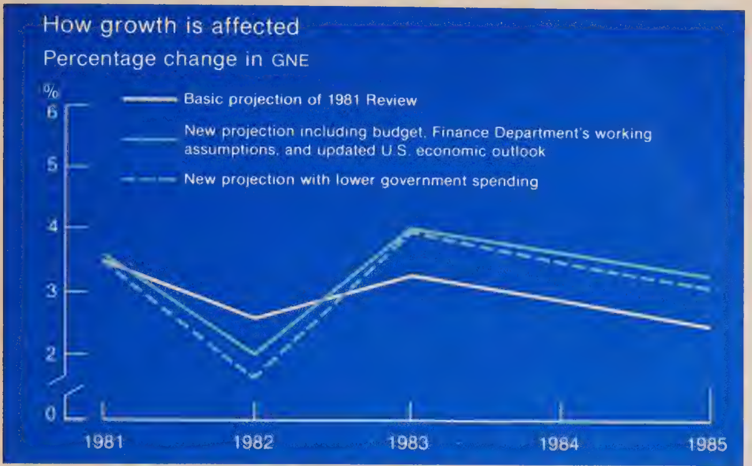
The proposed program attacks inflation both directly and indirectly from the supply side of the economy by restoring the incentive to invest, but it also works on the demand side and attempts to balance both aspects of economic policy to achieve the objective.

On energy, the Council says that "the federal government and the province of Alberta have not been timid in taking action that will result in higher energy prices to users." It might be wise to slow down the pace of Canadianization of the oil industry; otherwise this potential source of inflationary pressure may limit the scope of policy choice in other areas.

Essentially, the Council's message is that economic policy must move away from the attitude that restraining inflation is the only objective and that a restrictive monetary policy is the only way of reaching that objective.

The Council made six specific recommendations, including reduction of corporate taxes, continued restraint on government spending, reduction of indirect taxes on non-energy goods with monitoring to make sure that benefits are passed on to consumers, moderate increases in personal income taxes in 1983 and 1984, and a similar approach to changing taxes on the part of provincial governments. As well, it said that the federal government should have contingency plans to deal with the possibility of at least one sharp increase in world oil prices between now and 1990, and that explicit programs should be developed to help low-income groups cope with rapid oil price increases.

New projections reflect budget impact



The Economic Council's Eighteenth Annual Review of the economy and the policy recommendations, released in December last year, were prepared before the federal budget of November 12, 1981. Council economists developed additional projections to take account of tax changes proposed in the budget and the Finance Department's working assumptions about government spending and transfers to the provinces. The projections also incorporated a more recent (and more pessimistic) outlook for the United States economy.

The changed U.S. outlook alone meant that the basic projections (the "base case") of the 1981 review had to be changed. Because the Canadian economy is so closely tied to what happens in the United States, a sharper recession in that country would be expected to result in lower economic growth in Canada. And Council projections also showed lower inflation rates and higher unemployment for 1982 than was projected in the 1981 review. However, the quick recovery projected for the U.S. in 1983 is expected to bring higher real growth in Canada in the period from 1983 to 1985 than was projected in the annual review.

When the effects of the budget and of the Finance Department's working assumptions are included, growth in the economy's total demand for goods and services (real gross national expenditure) in 1982 is projected at 2.0 per cent instead of the 2.6 per cent expected when the 1981 review's basic projections were made. Real growth in the period from 1983 to 1985 turned out to be slightly higher than originally projected (see chart). Although the results showed a rather different growth profile over the five-year period from 1981 to 1985, with a sharper drop in 1982 and a bigger increase in 1983, cumulative real growth expected over the next four years remained the same as that projected in the 1981 review.

Both the changed U.S. outlook and the budget measures, together with the Finance Department's working assumptions about spending and transfers, mean lower inflation rates than originally projected, primarily because of the changed U.S. outlook for inflation. Instead of a 12.2 per cent increase in the Consumer Price Index (CPI) this year, Council projections now indicate an inflation rate of around 11.5 per cent for 1982. Inflation is projected to be down to the 9 per cent range by 1984, instead of the 10.6 per cent increase in the CPI which was originally projected for that year. New Council projections for 1985 indicate an inflation rate of just over 9 per cent, although the Finance Department's projection for that year (issued as part of the budget background papers) is 8.3 per cent.

In order to isolate the impact of the tax changes proposed in the November federal budget, Council economists developed a set of projections which included the Finance Department's working assumptions about spending and transfers to provinces, but excluded the effects of budget measures associated with personal, corporate and indirect taxation. They found that real growth improved. This suggests that the budget tax measures would depress real economic growth during 1982 and 1983, a consequence of the way in which these measures will dampen down the total demand for goods and services in the economy.

The changed U.S. outlook will tend to increase the Canadian federal deficit. But the calculations also showed that if the budget measures had not been introduced, the federal government's deficit might have approached 3 per cent of gross national expenditure (GNE) in 1982, instead of the 2.3 per cent projected when the budget measures are included.

The working assumptions on which the budget was based, besides implying slower growth in transfers of funds to the provinces, also make provision for reserves to meet future spending on programs and tax changes which have not yet been determined in detail. These unallocated funds could be spent for various purposes or they could be used to reduce the federal deficit or to reduce taxation. Council economists also developed a set of projections which assumed lower rates of government spending than the budget documents would imply, using the increased room for manoeuvre to reduce the federal deficit. These projections show a lower rate of economic growth than the other new projections which included the budget tax measures and all the working assumptions used by the Department of Finance in preparing the budget.

When the assumed government expenditures and transfers were reduced below the level of those included in the government's planning framework, the outcome was a projection for the federal deficit which was very similar to that projected in the 1981 review. The budget would be brought into balance by the middle of the decade, compared with a deficit amounting to about 1 per cent of GNE when the working assumptions of the budget were included. The policy question to be decided here is the importance of aiming for a target of reducing the federal deficit. And whatever the level of the deficit as a percentage of real gross national expenditure, decisions will have to be made on what priority should be given to expenditure programs or to tax reduction.

Labour markets

Council project in the works

Canada continues to suffer high rates of unemployment despite mounting, chronic shortages of skilled workers for many jobs. And the shortage of skilled workers persists despite federal manpower training programs, which each year spend $750 million teaching new skills to about 300,000 clients.

It was to find answers to the imbalances between unemployment and worker shortages that the Economic Council two years ago began a study of labour markets. That study is now nearing completion and a report is scheduled for publication this spring. *Au Courant* interviewed the director of the Labour Markets project, Keith Newton.

Au Courant: What were the concerns that led to the Council undertaking the present study of labour markets?

Newton: The Council has in the past undertaken work on a number of issues related to labour markets. This sustained interest in the field coincided with public concern over skill shortages and unemployment. The result was that, a couple of years ago, the Council decided to proceed with a major study of labour markets that examines the structure of the Canadian labour market, demographic changes that are affecting it, and other related issues.

Au Courant: What changes have you found in the present labour market from what it was in the 1960s and 1970s?

Newton: Well, first of all, there is a big difference between the labour market in those two decades. In the 1960s, unemployment was never *higher* than 5 per cent while in the 1970s, it was never *lower* than 5 per cent. The question was then to understand the reason for the deterioration in performance through those decades and therefore arrive at a view of the labour market of the 1980s. A major conclusion is that the composition of the labour market of the 1980s is vastly different from what it was. The common view that the labour force is made up of a majority of prime-age male workers who are the heads of families no longer holds. In the labour market of the 1980s, these men are greatly outnumbered by women workers and young people. This has tremendous implications for a range of policies, from the type of jobs that should be created to the types of training programs that need to be put into place to serve this changing work force.

Au Courant: What does your study reveal about the nature of unemployment?

Newton: Most of the burden of our unemployment is actually concentrated on a small group of the unemployed, perhaps about 16 per cent who are actually out of work on a long-term basis and probably account for about 45 per cent of all the measured unemployment. I think the importance of this particular piece of analysis is in its implications for policy because, if you think that unemployment is largely short-term and largely voluntary in nature, then the kinds of policies that you would tend to bring to bear would be things that would give people an incentive to search for jobs more intensively or more quickly and move to new jobs faster. If, on the other hand, you understand that a significant part of unemployment is long-term, then you start to look at structural causes of unemployment, or causes originating from a lack of demand in the economy. That suggests a whole different set of policy implications.

Uluschak, The Edmonton Journal

"Great news! I'm no longer unemployed — I've been seasonally adjusted!"

Au Courant: What are the causes of long-term unemployment?

Newton: It is fair to say that duration is related to the economic environment. There is a definite regional pattern and also a cyclical pattern. When economic conditions are plainly adverse, either because a particular location is having a bad time or because of recessionary conditions generally, then duration lengthens and the concentration of people in long-term unemployment increases. The policy implications are for the importance of job-creation policies, on the one hand, and manpower training policies, on the other.

Au Courant: What do you see as being the effect of your study?

Newton: On the one hand, we want to bring to the attention of Canadians generally, and policy makers in particular, some of the new insights which we think are afforded by the kind of analysis we have undertaken. And, in particular, we are anxious to make some recommendations for change that we think could contribute to the efficient functioning of the Canadian labour market.

Au Courant: How is the job market of the future going to differ from the past?

Newton: As mentioned earlier, the composition of the work force will have changed; there will be a majority of women and young people. The types of jobs coming on stream will also change. There will continue to be a big increase in employment in the service sector with consequent effects on such things as job training.

Training itself will figure more prominently in the future. It will become a lifelong process. People will leave jobs periodically for training sessions to assist them in adjusting to a labour market where types of jobs will change rapidly on account of technological change and adoption of new production methods.

Doctors' output varies among provinces

Maybe the air in certain parts of Canada has special therapeutic qualities. That might explain why people live longer in some areas than in others. But it can't account for the discovery that doctors in some provinces – Newfoundland and Saskatchewan, in particular – are more productive than their colleagues in other provinces, such as Nova Scotia and British Columbia.

So economists Ludwig Auer and John Menic found when they compared the provincial output of physicians – in terms of services provided – between 1974 and 1976. Carried out as part of the Economic Council's study of productivity for its seventeenth annual review (released in the fall of 1980) and for the forthcoming study of federal-provincial fiscal arrangements, their analysis focuses on this particular aspect of productivity performance in the health-service industries.

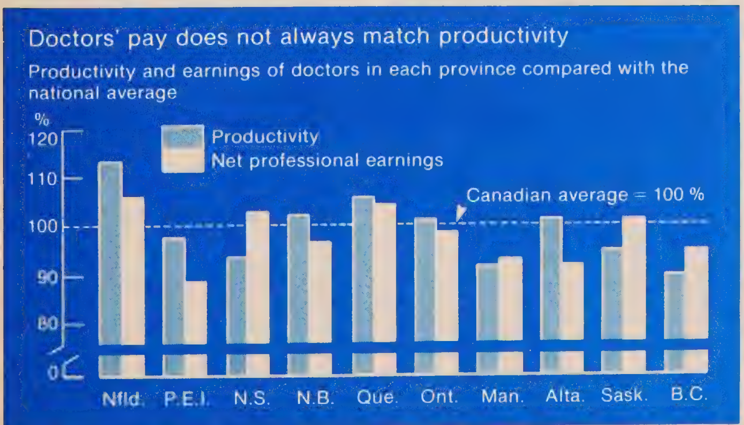
According to the authors, Canadian doctors were paid close to $2 billion in 1975, roughly one-sixth of the total amount spent on health services then. Provincial spending on physicians' services in that year varied widely though, ranging from $54 per capita in Newfoundland at one extreme, to $118 per capita in British Columbia at the other.

Part of the explanation for these differences, the authors explain, lies in provincial variations in the number of doctors per thousand people, in the degree of medical specialization, and in the fee charged for different services. And part is caused by provincial variations in the output of the doctors.

To make possible a cross-province comparison of output alone, the economists adjusted their calculations to put doctors in each province on a full-time, fee-charging basis, grouping them into 18 different specialties, and assuming that they each charged the Canadian average fee instead of the various provincial fees for each of 116 activities. Measuring the quality of service provided was more difficult. The authors based this aspect of their analysis on provincial differences in the mortality rate following surgery, in infant mortality rates, and on length of stay in hospital.

Their results are both surprising and interesting. The productivity of doctors apparently varies by as much as 23 per cent among the provinces. Newfoundland physicians lead the pack, with an output running at 13 per cent above the Canadian average, followed by doctors in Quebec at 6 per cent higher than average. In comparison, physicians in Ontario, New Brunswick and Saskatchewan turned in an about-average performance, those in Manitoba, Nova Scotia and Alberta were below average, and B.C. physicians had the lowest output at 10 per cent below the national average.

Highly productive general practitioners and medical specialists in Newfoundland accounted for most of that province's strong performance, while the weaker showing of British Columbia, Alberta and Manitoba came from not only GPs and medical specialists, but from surgeons and anesthetists as well.



What's particularly fascinating about these results, the authors say, is that they run counter to those produced in an earlier analysis of productivity in the goods-producing industries. There, productivity performance was found to be consistently above the Canadian average in British Columbia, Alberta and Ontario, and below average in Quebec and the Atlantic provinces. The implication, point out Auer and Menic, "is that physicians in some of the high-income provinces have a lower output than their counterparts in some of the low-income provinces."

But are doctors paid according to their output, as proved in general to be the case for workers in the goods-producing industries? Apparently not, the authors find. As the chart shows, physicians in some provinces are underpaid in terms of their productivity performance, while others are overpaid, sometimes substantially.

And taking quality of service into account doesn't explain why this is so, they claim. There's no convincing evidence, say the authors, that patients received poorer care in provinces where doctors were paid less than their output warranted, or better care in areas where incomes outstripped productivity.

On the other hand, provinces did vary in the standard of care they provided, their results show. The chance of surviving surgery is at least 10 per cent better than average in some of the provinces, and at least 15 per cent poorer in several others. Infant deaths attributable to injuries at birth varied among the provinces even more. Post-operative care varied too. Patients in some provinces spent much more time in hospital following an operation than those in others.

When Auer and Menic looked into the question of regional differences in availability of medical services, they found that, despite federal and provincial funding, certain regions still provide a higher level of medical service than others. In this respect, the Atlantic region and the Prairies are 10 to 25 per cent below the national average.

"Provincial Variations in the Productivity of Physicians in Canada, 1974-76," by Ludwig Auer and John Menic. Discussion Paper No. 205.

Political considerations

What prompts a government decision to give subsidies to theatre groups, say, or create agricultural marketing boards, or set product safety standards, or meet other policy objectives with a different approach? Understanding why these wheels are set in motion, and what motivates politicians to choose one policy instrument over another, is central to the whole issue of regulatory reform, say four University of Toronto professors.

In a paper written for the Economic Council's study of government regulation of the economy, Michael Trebilcock, Douglas Hartle, Robert Prichard and Donald Dewees contend that politicians are influenced by a whole grab bag of considerations when they decide how to implement policy. To begin with, their course of action may be limited by constitutional or legal constraints. But political pressures play an important role too. Whenever possible, the authors say, a governing party will pick policies conferring the greatest benefits on key voters – or on interest groups with voter influence – particularly at election time, while passing on costs to less critical voters.

And when a potentially unpopular policy has been chosen, a governing party will often try to disguise the fact, by appeasing or distracting voters with a symbolic gesture, or convincing them through an information campaign. Or it may assign administration of the policy to an "independent" government agency which can deflect criticism. At all times though, the authors say, politicians will favour strategies and governing instruments that emphasize the gains a policy offers, while downplaying the problems.

Reformers of regulation need to understand that some reforms will never be acceptable because of these political constraints, the authors say, and they should be looking instead for options politicians can live with.

As well, they point out, it's important to remember that decision makers have a wide range of policy instruments to choose from, so they can easily substitute one approach for another whenever they run into opposition. Reform of regulation will need to cover as wide a territory as possible, to allow for this kind of substitution, the authors caution.

To illustrate their theory, they analyse a number of cases in point, including the use of regulation to promote Canadian content in broadcast programming, and regulation and taxation policies to collect profits from the production of crude oil.

The Canadian government's intervention in the broadcasting field has been carried out, the authors say, with the proclaimed intention of promoting a distinctive national culture. To achieve this policy goal, decision makers in the federal cabinet relied on two policy instruments: public ownership through the Canadian Broadcasting Corporation (CBC); and government regulation by way of the Canadian Radio Television Commission (CRTC). In theory, both organizations are there to further Canadian unity and guarantee the continuing expression of Canadian identity, as required by the Broadcasting Act. To that end, regulations were enacted by the CRTC requiring broadcasters to include substantial Canadian content in their programming, particularly during prime time hours.

The Economic Council's report on government regulation of the economy was published in June 1981 and featured in the last two issues of Au Courant. On these four pages, we present reports on some research papers prepared as part of the study, along with highlights from a recent conference on regulation held in Vancouver.

In practise, this objective has not been met, the authors contend. Pressure from the private broadcasting industry has meant that Canadian content regulations have been watered down considerably in strength. A rule change redefining prime time as the hours between 6 p.m. and midnight (instead of from 7-11 p.m.) has allowed broadcasters to show Canadian programs outside peak viewing periods; and a change permitting broadcasters to average their programming over the year has enabled them to relegate many Canadian shows to the unprofitable summer months.

But in terms of rational political action, say the authors, the approach taken makes good sense. The symbolic appeal of the Canadian content policy remains untouched, satisfying most cultural nationalists, who are largely unaware of the more complicated results and implications of the guidelines. At the same time, the most influential interest group, the broadcasters, which bears the financial costs of the policy and so expects real benefits, has been pacified by subtle modifications in the rules.

Both the federal and the Alberta government have a keen interest in acquiring the surplus revenues – those remaining after costs are paid – resulting from oil production. And both governments must satisfy different constituencies in the use they make of these revenues, the authors say. Fundamentally, they claim, the federal government is keenest to confer benefits on the key ridings of southern Ontario, by promoting growth in eastern manufacturing, whereas Alberta's interest lies in directing revenues towards its own citizens and business interests.

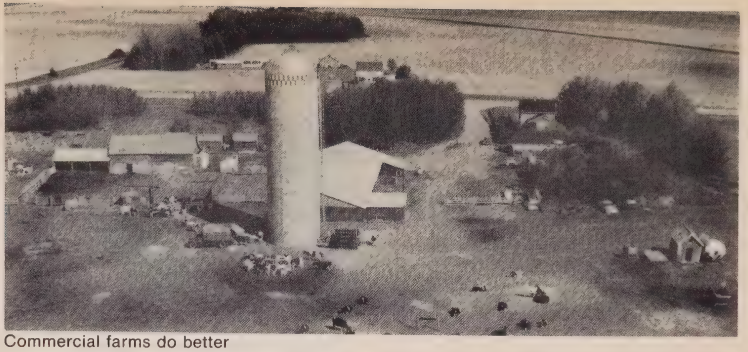
So in deciding on policy objectives and their implementation in this field, federal and provincial politicians have to consider not only what constitutional authority they have, and what approach is most efficient, but also what political spin-offs might result.

The issue is complex, but on political grounds alone, the authors find the federal government has a clear interest in keeping energy prices below world levels by price regulation. This policy benefits manufacturing interests and consumers. The losers are the Alberta government and the oil companies, but the blow can be softened by giving certain tax concessions to the oil companies. Allowing producers to deduct certain exploration and development costs, along with some of their production profits, gives them a substantial concession without attracting much notice. While benefiting the oil companies in this manner, the federal government can also take a tough visible line by refusing to allow producers to deduct royalties paid to the provinces.

"The Choice of Governing Instrument: Some Applications," by Michael Trebilcock, Douglas Hartle, S. Prichard and Donald N. Dewees." Technical Report No. 12.

Another view of farm incomes

National Film Board of Canada


Commercial farms do better

It's time Canadian farmers started taking credit for their success – at least according to George Brinkman of the University of Guelph. In a study undertaken for the Economic Council and The Institute for Research on Public Policy in connection with the Council's work on regulation, he says that commercial farmers in particular "deserve to be recognized as good managers and as some of the most successful small businessmen in Canada."

The study covers the period from early to mid-1970s and paints an encouraging picture of conditions down on the farm. The great majority of farmers, it says, were, by the mid-1970s, pulling in a decent income and getting a fair return on their investment in time, labour and capital.

Not all farmers, though, were in this happy position, nor was the overall situation entirely rosy. Although the study was written before the recent period of soaring interest rates and extreme cash flow difficulties facing many farmers, some groups and regions were noticeably worse off than others, even in the mid-1970s. Poor farmers, most often owning small farms and lacking other sources of income, were concentrated in the Maritimes, Newfoundland and Quebec, although pockets can be found in every province. Also, farmers can't rely on a stable income from year to year, unlike other groups. And recent high interest rates have taken their toll too, raising costs, and discouraging young would-be farmers from starting out.

Still, as of the late 1970s, most farmers had seen their earnings improve steadily from 1973, Brinkman says. Farmers running large commercial operations (roughly 30 per cent of the total) have done best of all. And their situation is of some importance, because they account for 80 per cent of farm food production. But smaller-scale farmers on the whole were also earning satisfactory incomes, especially those holding a second job off the farm.

Reports claiming that farmers suffer from inadequate living standards come about, Brinkman says, because analysts tend to look at net farm incomes (which panned out at just over $4,000 on average in 1979, for example). For a number of reasons, though, this average is misleading, the author argues. First of all, it includes the earnings of hobby farmers, who often record net losses over the year. But few serious farmers are members of this group, Brinkman says; most, in fact, have a healthy income from another job.

Too, calculations of net income do not reflect some income-related benefits farmers receive. For example, they can treat their farmhouses as part of their business for tax purposes, by including the purchase price in business costs, and by deducting mortgage payments, taxes, and some home repairs as business expenses. And they save money too, by producing their own food. These savings are a form of hidden income, Brinkman argues, and as such, they should be included in calculations of farmers' welfare.

Thirdly, there's a good argument for including capital appreciation – the increase in value of assets such as land and buildings – in calculations of farm profits, Brinkman says, even though farmers don't usually cash in on these benefits until they stop farming. Even so, these assets mean that farmers may not have to save as much as others for retirement, and they have a sure source of collateral for borrowing money – two pluses other workers lack.

And not to be forgotten, Brinkman adds, is the soaring value of farm land in recent years, particularly in Ontario, Saskatchewan, British Columbia and Alberta. By the late 1970s many Ontario farmers who started out ten years before had tripled their original investment, Brinkman's figures show. On the other hand, the adage that farmers "live poor and die rich" has some truth, he says, so programs teaching them how to capitalize now on these assets may be in order.

When hidden income benefits and increases in capital appreciation are included in estimates of farm income, Brinkman's results show that in 1976, after accounting for inflation, small farms (with sales under $10,000) recorded average after-tax earnings of $22,000, and large farms (selling more than $50,000) brought in almost $54,000 on average. In many cases farmers, especially the large operators, are doing much better than urban workers and self-employed business people, the author found.

Whether this income represents a fair return on the investment farmers make in terms of labour, management, and capital is another question, Brinkman says. In other words if farmers are putting twice as much into their business as non-farmers, are they earning twice as much? Little analysis has been done in this area, but an Ontario study indicating that commercial farmers in that province were not underpaid for their efforts between 1971 and 1974 probably still holds there, and in some other provinces as well.

These results have many implications for agricultural programs and policies, Brinkman says. For one, they suggest that there is little justification for expanding agricultural assistance programs that tend to direct most of their benefits to the largest commercial farm enterprises. Instead, he suggests, special programs to assist small farmers feeling the pinch may be more appropriate. As well, he says, more attention should be paid to the question of capital appreciation and how it affects income security. Another consideration, he notes, is whether two classes of farmers are being created by virtue of current policies: the children of farmers, who inherit property without paying succession duties, and with it a financial base and a credit rating; and the others, who must fend for themselves.

Farm Incomes in Canada, by George L. Brinkman (EC22-97/1981E, $7.95 in Canada, $9.55 elsewhere).

New ideas for the fishery

The key to a prosperous fishery lies in cutting back on regulation and giving free enterprise a chance.

So say Anthony Scott and Philip Neher in a recent study undertaken for the Economic Council's report on regulation. They build on six case studies (on lobster, halibut, salmon, cod, roe herring and herring) to come up with a new proposal that they say will benefit the industry and consumers alike, by increasing efficiency and reducing costs.

Some regulation will always be necessary with a common property resource like the fishery, Scott and Neher begin. Without rules, fishermen would crowd the waters, rapidly depleting fish stocks. But as it is now a regulatory monster has been created. The nightmare of complicated and weighty rules that has grown up is so overwhelming, the authors claim, that "... in many cases the most honest fisherman cannot bait a trap, drop a line, or set a net without breaking some law."

Even with the best will in the world, fisheries officials responsible for administering the Fisheries Act and all its regulations can't enforce the rules uniformly. Administration costs too have become staggering. The fishery cries out for reform, the authors say, and their solution is to put its management, as far as possible, in the hands of those with the biggest stake in its prosperity – the fishermen themselves.

Put very simply, the authors propose dividing the total allowable catch (TAC) for each species of fish into shares or quotas, to be sold eventually on the open market. Share purchasers would have the right to catch a specified number of fish under controlled conditions (in the right season, for example, and using the appropriate fishing gear). Shares would be freely tradable too, so that fishermen could switch to a new area or species with ease. In effect, this tactic would make the fishermen part-owners in the industry, with a real incentive to see it do well. Individual freedom and initiative should flourish as a result, the authors say, and the most efficient use would be made of capital, labour and resource potential.

Fisheries and Oceans

Who should manage the catch?

Underlying this free enterprise system, the authors envisage a regulatory structure based on two distinct and independent institutions. The first, a Fisheries Management Branch (FMB) would be established in various regions to manage fishing activity and assets, by setting the TAC for each species, dispatching boats and opening and closing fishing areas.

The second, the Fishery Rights Registry Office (FRRO) would record ownership of shares in each TAC. Potential buyers or sellers of these quotas would be able to check on market conditions through this registry, a set-up greatly to the advantage of fishermen not in close touch with one another.

There are some real advantages to taking this approach, the authors say. First, it depersonalizes and depoliticizes management of the fishery. Right now, on-line managers – the fisheries officials – can make regulatory decisions on fishing areas, gear type, and so on that benefit some fishermen at the expense of others. And fishermen can easily use their political power, by voting, lobbying and negotiating, to persuade managers to bend the rules in their favour. But under the new system managers would know only how many quotas were held in a particular TAC (by checking with the FRRO) without any idea how or by whom the permitted fishing would be done. "Just as the passenger is unable to help a particular taxi driver by phoning the dispatcher for a cab," the authors explain, "so the fishery manager will be unable to affect the fortunes of particular fishing boats by his decisions."

Too, fishermen would have a new source of wealth from the ownership of fishing rights. To get the the system going, the authors advise giving (or selling) catch quotas to owners of current vessel licences. From then on, though, share-owners could buy available rights to fish other species as well; and they could lease, loan, or give away

their shares through the FRRO. Foreign boats could only cash in on this system by buying or renting a quota.

Finally, this system allows the catch to be brought in with less overall effort and cost, so consumers should benefit too, from cheaper fish prices.

The authors expect some fishermen to lose out when this new plan takes effect, particularly in its early days. But unemployment shouldn't grow in the long run, despite what some critics say. Still, Scott and Neher suggest innovators should move cautiously at the outset to avoid alarming the industry. One possible approach might be to try out the new system in two model fisheries, one on the east coast, and one on the west.

The Public Regulation of Commercial Fisheries in Canada, by Anthony Scott and Philip A. Neher, editors. (EC-98/1981E; $5.95 in Canada, $7.15 elsewhere).

The following case studies used in compiling this report, can be ordered from the Communications Division at the Council (see ordering information on page 2).

"Regulation of the Bay of Fundy Herring Fishery," by H. F. Campbell

"Regulation of the Pacific Halibut Fishery," by A. Crutchfield

"Regulation of the Pacific Salmon Fishery," by J. D. MacDonald

"Regulation of the Northern Cod Fishery of Newfoundland," by G. R. Munro

"Regulation in the Maritime Lobster Fishery," by A. Scott

"Regulation of the British Columbia Roe Herring Industry," by James E. Wilson

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Vancouver conference

Current regulations designed to prevent massive overfishing on the east and west coasts of Canada create economic waste in that too much capital and labour are being employed to catch fish, David Slater, chairman of the Economic Council of Canada, told a recent conference in Vancouver.

Dr. Slater was one of the speakers at the last in a series of conferences held through the summer of last year to discuss the Council's report on government regulation of the economy, *Reforming Regulation*.

The conferences were a joint effort of the Economic Council of Canada and The Institute for Research on Public Policy, and were attended by representatives from business, government, labour and universities. Workshops were held on various sectors dealt with by the report, including telecommunications, fisheries, agriculture and transportation.

The problem in fisheries is not one of too many regulations, but rather the need to design a different set of regulations in which market incentives would play a greater part than they do in the present system, said Dr. Slater.

"Most of the regulations designed to prevent massive overfishing take the form of seasonal and complicated gear restrictions, and vessel licensing – restrictions on effort rather than output. This has led to far too much capitalization on the west coast and too many fishermen on the east coast."

In its report, the Council recommended that a simpler and more efficient regulatory scheme for the fisheries would be to permit the buying and selling of catch quotas, consistent with overall estimates of the total allowable catch.

Chuck Cook, M.P., addresses the conference

Chuck Cook, Conservative Member of Parliament for North Vancouver-Burnaby, and former vice-chairman of the House of Commons Special Committee on Regulatory Reform, told participants that, among other things, reforming government regulation of business activity could help save Canadian business millions of dollars. He said it now costs business $500 million a year to satisfy government requirements for keeping records. A bill now being prepared for introduction in the House will cut back that burden, relieving business of a least $100 million in costs, said Mr. Cook. The saving, he said, "hopefully might get passed to consumers."

Susan Burns, representing the Consumers' Association of Canada, "commended the report's recommendation to remove barriers that forbid the use of customer-owned equipment on telephone company networks." She compared telephones to toasters, saying there was no special rationale to permit anyone to limit the choice of consumers in buying one or the other.

Ms. Burns criticized the report for not having gone far enough into such areas as telephone rate structures, the principle of user-pay fees, and regulation of the broadcast industry.

Both B.C. Telephone and the Telecommunications Workers' Union defended the company's monopoly on equipment rentals, claiming it helps hold down monthly residential phone rates.

Union president, Bill Clarke, noted that the Canadian Radio-television and Telecommunications Commission has scheduled hearings on the question of terminal attachment. He criticized the Council for reaching its conclusions and publishing them in advance of these hearings and "without hearing evidence from many quarters."

Peter Pearse of the University of British Columbia told the conference that "the most staunch protectors of regulation are the regulated." Furthermore, he said, the federal bureaucracy is not seriously interested in deregulation because one of the effects would be to trim its present size. It is precisely those businesses which are the most regulated, including taxis, trucking and agriculture, which most vociferously oppose deregulation, he said, because they have the most to gain from the present system.

The Vancouver conference marked the end of a series of three conferences on regulation held by the Council last summer. Previous conferences took place in Montreal and Toronto.

The aim of the conference was to encourage public debate of issues raised by the Council's report and help build public support for the process of reforming regulation.

Tax breaks on retirement savings

Saving for retirement isn't made easy for people with low incomes. It's harder for them to put any cash aside for that purpose, of course. But also they aren't given the same incentive to save as higher-income earners, who profit much more from measures like the tax deductibility given to Registered Retirement Savings Plans (RRSPs) and private pension plans.

Economists Michael Daly and Peter Wrage, in two papers written in connection with the Economic Council's report on pensions, look at how successful Canada's present retirement income system has been in encouraging people, regardless of income level, to save for their retirement. This is an important question, they say, because the savings individuals put aside for that purpose now make up a major part of the country's total savings; so any shifts in the pattern caused by changes in public or private pension programs could have important implications for Canada's economic growth and stability.

With that in mind, the authors focus on two particular aspects of the present system: the effect on saving for retirement of income tax incentives, such as the special personal exemption given to those over 65, and the tax deductibility of contributions to private pension plans and RRSPs; and the impact of Old Age Security (OAS) benefits in that respect.

Private pension programs now play an important role in retirement saving, the authors point out. In 1977, over 40 per cent of Canada's workers were covered by employer-sponsored pension plans, with contributions totaling $6.2 billion. And RRSPs have become increasingly popular as a form of retirement saving in recent years; in 1977, about 1.3 million Canadians contributed well over $2 thousand million to such plans.

Allowing people to deduct the contributions they make to employer-sponsored pension plans and RRSPs from their income tax has been greatly to the advantage of taxpayers in the upper-income brackets, but of little benefit to the poor, who make little or no tax saving that way, Daly and Wrage argue. Statistics bear out this claim: in 1976, nearly 86 per cent of the million plus taxpayers who reported RRSP contributions had incomes of $10,000 and above; and people earning more than $25,000 contributed almost triple the amount of people earning between $10,000 and $14,000.

People with low incomes might be tempted to save more if they were given bigger tax breaks in this area, Daly and Wrage say. They suggest creating a new kind of RRSP, in which the government would pay low-income contributors a bonus in order to compensate them for their low tax savings on the RRSP deduction. An innovative step, without any question, they add, but one which has been tried out in West Germany with considerable success.

Daly and Wrage also advocate dropping the old age exemption (allowing anyone over 65 to deduct a flat rate) from the tax form, for a number of reasons. First of all, they say, people tend to save slightly less for retirement because of this guaranteed exemption. Secondly, it is no longer needed as a buffer against medical expenses with the introduction of medicare and now that senior citizens in many provinces are either exempted from paying health insurance premiums, or entitled to rebates. And finally, this exemption too benefits the well-off more than the poor, for as the authors point out, people who pay low taxes or none at all receive little or no benefit from a tax exemption.

Instead, Daly and Wrage propose that the savings made by dropping this exemption be used to finance an expanded Guaranteed Income Supplement (GIS), as well as more generous provincial supplements, to provide more income for the needy.

In a second paper, the authors look at the effect the Old Age Security Program (OAS) has had on retirement savings. This scheme has had no adverse impact on economic growth, they say. As it is not income-tested, its influence on retirement saving and decisions about work and leisure is small compared with those programs which are related to income. On the other hand, a program like the GIS, which is income-tested, may discourage people from saving for their retirement because the more income they have from other sources, the lower benefits they will receive from GIS. Because everyone gets the OAS regardless of other income, it does not seem to present this kind of disincentive to saving through employer-sponsored pension plans or RRSPs, the authors says.

The universal OAS program has a slight effect on work patterns in that it seems to reduce the number of hours a person works before reaching age 65, but it does not seem to offer an incentive for early retirement.


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Planning for a secure old age

"The Impact of Canada's Old Age Security Program on Retirement Saving, Labour Supply and Retirement," by Michael Daly and Peter Wrage. Discussion Paper No. 203.
"The Effect of Income Tax Incentives on Retirement Savings: Some Canadian Evidence," by Michael Daly and Peter Wrage. Discussion Paper No. 204.

New directors appointed to Council

The Economic Council's staff of economists and other specialists work under the direction of a Chairman and two full-time Directors. Two new directors were appointed in August last year to fill vacancies left by the resignation of Robert Lévesque and the appointment of David Slater as Chairman.


Peter M. Cornell

Peter Cornell will assume overall direction of the Performance and Outlook Group, which prepares the Council's annual review of the Canadian economy. He will also be responsible for the Labour Markets and the Growth and Productivity Groups. Dr. Cornell sees recent changes in the Review as efforts towards making the results of highly technical exercises and methods more easily understandable to the public, as well as to Members of Parliament or provincial governments and legislatures.

The Council hopes to improve the process of public discussion and political decision making, says Dr. Cornell, "by providing a framework which shows the outcome of adopting particular objectives or the consequences of using certain policy instruments to achieve these objectives."

For Dr. Cornell, this process fits into the general effort the Council has undertaken to improve its communications with the public and with those involved in the political process. Such efforts would extend beyond the annual review, to each of the Council's major reports and to the publicizing of the results of other studies prepared as part of the Council's on-going program of research.

The Labour Markets Group will publish what Dr. Cornell terms a "landmark" study in the coming year which "will do a lot to define labour market imbalances and will propose measures to deal with them." And the Growth and Productivity Group is conducting research that will also result in a major report.

"The problem in this area has been that people have tended to look at aggregate growth of productivity right across the economy. You can't do that alone because it becomes a very sterile field," says Dr. Cornell. The study of productivity must get down to the level of individual establishments if it is to fully identify the causes of the recent decline in productivity growth and the ways to improve productivity in specific sectors.

Dr. Cornell first came to the Council in 1966 and held a series of key positions before his appointment as Director.

The Economic Council's consultation and communications activities are the special responsibility of Patrick Robert, who will also supervise the overall administration of the Council and will oversee the work of the Financial Markets research group.

The process of consultation with labour, governments, business and other representative groups in Canadian society will in future be part of an "exploratory" process through which the Council will determine its research priorities.

"Since the appointment of the new Chairman, we have put into place a program to identify future problems in a more systematic way than in the past," says Mr. Robert. Before undertaking a major project there will be an exploratory study on the subject and it is at this early stage that efforts will be made to associate various socio-economic groups. It is hoped that the process of continuing consultation through the course of a project will "act as a catalyst to facilitate agreement on solutions, or at least to permit a certain unity of vision which will contribute the substance and the weight of policy recommendations emanating from the study."

On another front, Mr. Robert will continue to be active in responding to criticisms that the Council offers too few opportunities to francophone researchers.

Efforts to recruit more francophone researchers over the past two years have increased their proportion among the research staff from about 10 per cent in March 1980 to 24.5 per cent at present.

Mr. Robert sees great value in gathering at the Council anglophone and francophone researchers with "different cultures, different mentalities and often different philosophies, but utilizing the same economic techniques." The result goes beyond language, says Mr. Robert, since what we are really talking about is combining elements


Patrick Robert

which enrich and diversify the approach to economic research.

Before his current appointment, Patrick Robert was secretary-general of the Council.

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Looking Ahead

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Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has provided Canadians with an ongoing analysis of the economy, looking at economic policies and the effect of possible alternatives on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a significant role in public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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Economic Council of Canada

Volume 2, No. 4 1982

A report on financing Confederation

Innovation boosts exports

Freedom of information

Canada/U.S. conference planned

PUBLICATIONS

New Council report

Financing Confederation: Today and tomorrow (EC22-103/1982E, $9.95 in Canada, $11.95 elsewhere).

The Economic Council has taken a detailed look at the key issues bearing upon federal-provincial fiscal arrangements, and discusses its findings in this recently published report. *Financing Confederation* is available in bookstores across the country, and may also be ordered from the Canadian Government Publishing Centre (see below).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research studies have been published since the last issue of *Au Courant*.

Meeting Skill Requirements: Report of the Human Resources Survey, *by Gordon Betcherman* (EC22-100/1982E; $6.95 in Canada, $8.35 elsewhere).

The Choice of Governing Instrument, *by M. J. Trebilcock, D. G. Hartle, J. S. Prichard and D. N. Dewees* (EC22-101/1982E; $8.95 in Canada, $10.75 elsewhere).

Economic Intervention and Regulation in Canadian Agriculture, *by J. D. Forbes, R. D. Hughes and T. K. Warley* (EC22-102/1982E; $7.95 in Canada, $9.55 elsewhere).

The following research studies have been reprinted and can be ordered according to information below:

Canadian Television Broadcasting: Structure, Performance and Regulation, *by R. Babe* (EC22-63/1979E; $5.00 in Canada, $6.00 elsewhere).

The Future Population and Labour Force of Canada: Projections to the Year 2051, *by F. T. Denton, C. H. Feaver and B. G. Spencer* (EC22-75/1980E; $3.50 in Canada, $4.20 elsewhere).

The Adoption of Computer Technology in Selected Canadian Service Industries: Case Studies of Automation in University Libraries, Hospitals, Grocery Retailing and Wholesaling, and Department and Variety Stores, *by Steven Globerman* (EC22-95/1981E; $5.95 in Canada, $7.15 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 209 "Innovation and Export Performance in Canadian Manufacturing," *by Petr Hanel and Kristian Palda*.

No. 210 "Block-Funding and Provincial Spending on Social Programs," *by Constantine Kapsalis*.

How to order

The research studies and Council report listed above are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

The discussion papers are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

Economic Council of Canada

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au courant

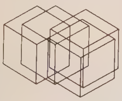
Volume 2, No. 4 1982

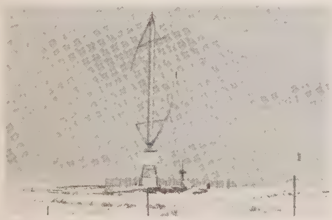
Financing Confederation

A summary of the Economic Council's report released in February.

Reforming Regulation

More reports resulting from the Council's three year study of government regulation of the economy:





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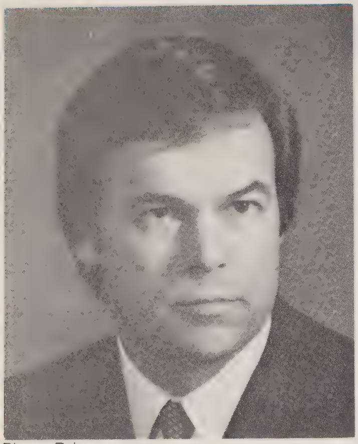
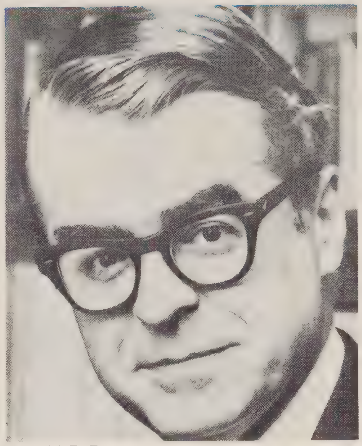
New appointments to the Council


Pierre Brien


Donald F. Forster


T. Earle Hickey

Pierre Brien was recently appointed vice-president in charge of development and communications for the Canada Lands Co. (Mirabel) Ltd. A former director-general of Canada Mortgage and Housing Corporation for the province of Quebec, he has also held positions with Treasury Board Canada, the Department of Secretary of State, and the Department of External Affairs.

Donald F. Forster has been president of the University of Guelph since 1975. Prior to that appointment, he was vice-president and provost of the University of Toronto. He is author of many articles in the field of economics and political science, and has served as economic adviser to the governments of Tanzania and Papua New Guinea.

T. Earle Hickey, a retired chartered accountant, is director and chairman of the finance committee of the Prince Edward Island Heritage Foundation. A former member of the P.E.I. legislature, he served as minister of finance for that province from 1970 to 1974. He is past president of Polar Quick Freeze Co. Ltd., and past secretary-treasury of Gulf Broadcasting Co. Ltd.

Accounting for inflation

Accuracy and reliability were once the watchwords of every accountant. But that was before double-digit inflation began to raise doubts about the effectiveness of traditional accounting methods.

The distorting effects of inflation have long been a concern for economists. Accountants too have had the feeling that the financial pictures they prepare for their clients may also be distorted by inflation.

In its 1979 annual review of the economy, the Economic Council made recommendations for changes in accounting and taxation rules to deal with the effects of inflation, and in October last year it sponsored a conference in Toronto to air some of the complex issues raised by the effects of inflation on financial reporting and taxation.

The conference was organized with the participation of the Canadian Institute of Chartered Accountants, The Canadian Manufacturers' Association, the Canadian Chamber of Commerce, the Canadian Federation of Independent Business, and the Canadian Tax Foundation.

Council researcher Abe Tarasofsky told the participants that reliance on obsolete accounting rules that ignore the impact of inflation have produced seriously overstated measurements of corporate profits. Because such information affects decision-making by management, labour and participants in capital markets, the distortions may have adversely affected business performance in recent years.

Some corporations which did not measure the effect of inflation on their profits may have paid out higher dividends than was either intended or advisable for efficient financial administration, Tarasofsky said.

According to a study he prepared with Theodore G. Roseman and H. Bert Waslander, real rates of return during years of high inflation were as much as half the reported rates.

Participants at the conference also heard how tax rules based on archaic accounting conventions can impose inequities during periods of inflation, with some firms in an industry paying higher effective tax rates than others.

The proceedings of the conference will be published later this spring under the title "Peering Under the Inflationary Veil," and will include a summary of the discussions as well as abstracts of the score of papers presented.

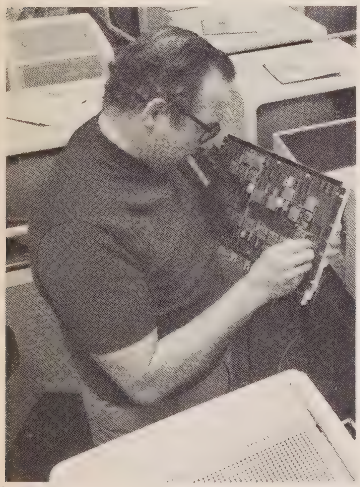
The Economic Council has recently published a research study on this subject, *Ex Post Aggregate Real Rates of Return in Canada: 1947-76*, by A. Tarasofsky, T. G. Roseman and H. E. Waslander (No. EC 22-99/1981E; $4.95 in Canada, $5.95 elsewhere). See ordering information on page 2.

Innovation boosts exports

Canadian industry is often told that investing in research and development programs is bound to pay off in the long run. But have there been any signs to date that companies taking that initiative are reaping some rewards for their virtue?

A new Council paper points to one. Analysis of the relationship between innovation and export performance for Canadian manufacturing shows that firms with the newest technology do better in export markets, say Petr Hanel of the University of Sherbrooke and Kristian Palda of Queen's.

As the basis for their analysis, the two economists had access to data from a survey conducted by the Economic Council as part of its ongoing research into technological change. A large sample of manufacturing firms was asked to report on innovations which contributed significantly to their productivity during the period from 1960 to 1978.


National Film Board of Canada

New technology provides benefits

Hanel and Palda were able to use the information provided by 153 of the the responding firms in four industries: telecommunication equipment and components, electrical industrial equipment, plastic compounds and resins, and non-ferrous smelting and refining. Their chief interest in the data lay in discovering whether any connection showed up between a firm's commitment to the research and development (R&D) of new technology, and growth in its sales abroad.

With that in mind, they investigated the relationship between R&D spending (as a proportion of sales) and exports (as a proportion of sales) for each firm overall, and also for its main industrial activity, with a special eye to exports of newly developed products. In a further step, they followed the same exercise for two specific years in the history of an innovation developed or adopted by a company: the year of its launching on the commercial market; and 1978, the final year covered by the data.

The authors find that firms succeed in foreign markets for a variety of reasons – their size, type of industry, and so on – which differ considerably among the industries they studied. But one clear, consistent finding emerges across the board: the more R&D spending a firm did – whether overall, in a specific area, or on a particular innovation – the healthier its export trade became. As the chart shows, firms with high R&D expenditures were about twice as likely to have high exports. "Throughout our investigation," Hanel and Palda comment, "the positive influence of R&D. . . on exports . . . stands out like a beacon."

Most successful of all in this regard were Canadian-controlled companies doing their own innovating. Export opportunities were less bright, Hanel and Palda find, for Canadian companies importing technology, and dimmer still for foreign-owned firms borrowing new ideas from their parent companies.

The authors also discover that a company doesn't usually start exporting new technology until it sells a certain amount at home – approximately \$78,000 worth in 1978, for example.

But surprisingly, Hanel and Palda hint that exporting new products may not be all that profitable – although they caution that their data are not extensive enough to settle the matter conclusively. Still, their analysis suggests that the more a firm exported its innovations, the longer it had to wait for a pay-off on its initial investment.

The authors also raise the question of government subsidies for R&D programs. If individual companies evidently can increase exports by stepping up their technological superiority, it may follow that government funding of industrial R&D will strengthen Canada's trade balance. But evidence in this area is contradictory, Hanel and Palda say. While they find that firms which had to pay the entire R&D shot themselves tended to do less exporting than firms getting outside help, they do not unearth any evidence that government support for a particular innovation helped to sell it in export markets.

New technology alone may not provide all the answers for a firm wishing to sell its products abroad, the authors conclude. Just as important may be the quality of management directing its efforts. The authors lack data to test this theory – although other economists have suggested management practices are of the utmost importance for successful international marketing. In any case, they say, they would hesitate to assume that incentives for R&D programs will necessarily help to strengthen the trade balance.

"Innovation and Export Performance in Canadian Manufacturing," by Petr Hanel and Kristian Palda. Discussion Paper No. 209.

Reforming Regulation

Controlling water pollution

Pollution is usually a cheaper option for the pulp and paper industry than pollution control, so regulations requiring companies to clean up their act have not always had quite the impact that was intended, says a paper written for the Economic Council.

As part of the Council's study of government regulation of the economy, Peter Victor and Terrence Burrell take a look at measures taken by the federal government and by Ontario to control water pollution from the pulp and paper industry. Although Ontario is the only province considered in any detail, many of the findings apply to other provinces where the pulp and paper industry operates.

There have been some tangible improvements in water quality, but efforts to clear up water pollution would be more successful if companies were given powerful economic reasons for complying with regulations, in the authors' view. Since no such incentives exist at the moment, progress has been much slower than officials expected, they say. As it stands now, individual mills can negotiate their own pollution-control schedules with regulatory authorities, who too often, in the authors' opinion, are swayed by what the companies say they can afford to invest on abatement, rather than by what they should be spending.


National Film Board of Canada

Source of pollution

Officials tend to be soft on offenders. The Ontario and Quebec governments, for example, punish polluters by withdrawing part of pollution-control subsidies – hardly a devastating financial blow, the authors comment. And even on the rare occasions when a company has actually been prosecuted for breaking the rules, the fines imposed have been well below the limit allowed by the legislation.

Victor and Burrell argue for a much tougher approach that would require offending companies to pay fines based on the amount of unauthorized pollution they produce. This tactic would make pollution abatement a more attractive course of action for pulp and paper mills.

They also recommend more public involvement in the setting and enforcing of pollution-control objectives. As it is, they say, concerned citizens are usually excluded from this process, despite their interest in the outcome. Nor are they given the opportunity to register a protest in the market place, the authors add. Pulp and paper products rarely are sold under the brand name of the producing company, so consumers don't have the necessary information to stage a boycott, or signal their approval of a company's pollution record.

"Environmental Protection Regulation: Water Pollution and the Pulp and Paper Industry," by Peter A. Victor, Terrence N. Burrell, with Jim Evans and Charles Figueiredo. Technical Paper No. 14.

Canada-U.S. conference

Government regulation of the economy is now coming under scrutiny in both Canada and the United States. Regulatory reform will have significant implications for economic management and for North American society as a whole.

Key issues raised by reforms in both countries will be the subject of a conference, sponsored by the Economic Council, and The Institute for Research on Public Policy, with participation from The American Enterprise Institute.

To be held in Toronto on May 20 and 21, the Conference will include distinguished speakers from government, labour, and regulated industries in both Canada and the United States. Ralph Nader, whose research group, Center for Study of Responsive Law, has recently completed a study of the economic effects of deregulation, will speak on the evening of May 20. Other participants in the two-day conference include William Niskanen, a member of the U.S. President's Council of Economic Advisers, Elizabeth Bailey, vice-chairman of the American Civil Aeronautics Board, Claude Taylor, president of Air Canada, James C. Miller III, chairman of the U.S. Federal Trade Commission, Marshall Cohen, deputy minister of Energy, Mines and Resources, and E. S. Rogers, vice-chairman and chief executive officer of Rogers Cable Systems Inc.

The registration fee is $375. For further information, contact: Donald Wilson, Director of Conferences and Seminars, The Institute for Research on Public Policy, 275 Slater Street, Ottawa, Ontario KIP 5H9; (613) 238-2296.

> The information you have
> is not what you want
> The information you want
> is not what you need
> The information you need
> is not what you can obtain
> The information you can obtain
> costs more than you want to pay
>
> *Finagle's Laws of Information*

Freedom of information

Canada needs a new Freedom of Information Act, but it should only be the first tier of any disclosure system, according to legal consultant Margot Priest. In a paper written for the Economic Council's study of government regulation of the economy, she says that Bill C 43 (the Access to Information Act) now before Parliament is only part of what's needed.

While Priest says the bill "is not bad," it shouldn't be seen as providing "a complete regime for information access," but she is afraid that it may turn out to be all the government intends to do on this important issue. In fact, she says, a second tier of criteria for information disclosure needs to be developed by individual departments and agencies which have to deal with requests for confidential information.

Most Canadians probably think they're entitled to the explanation behind any government decision affecting their health, their safety or their pocketbooks. At the very least, they'd expect people making or reforming regulations in these important areas to have all the key facts at their disposal.

But reality rarely measures up to these expectations, Priest says. Regulators need a steady stream of information from the private sector, as background for policy-making, for specific decisions, or for investigative and administrative purposes. Getting that information though is sometimes like pulling teeth, especially for government departments in charge of indirect or social regulations affecting health, safety and the environment.

The chore is often easier for direct regulators – agencies like the Canadian Radio-television and Telecommunications Commission (CRTC) or the Canadian Transport Commission (CTC) – dealing with specific details such as prices, rates of return, or a firm's request to enter or leave an industry. Companies often see a real benefit in complying with agency requirements, since the result could work in their favour – by providing them with a broadcasting licence, for example.

In contrast, government departments usually have a much tougher time, Priest says. Their job involves persuading numbers of companies in various industries to part with information that can be used to educate, warn and protect the consumer. Firms tend to regard many of these requests as time-wasting, costly and sometimes downright dangerous. Business people complain that much of the data they're asked to provide requires useless or duplicative effort. A company doing business across Canada, for example, may have to file reports in each of the ten provinces and probably with the federal government as well.

Worse still, in the view of many companies, is the fear that information provided to government may be released, inadvertently or otherwise, with harmful results – giving details on their union or contract negotiations, for example, or providing their competitors with trade secrets.

Some of this anxiety could be allayed by better departmental management, Priest says. But it also has to be balanced against other concerns, she adds, "such as the public's right to know what is happening within government, or a party's right to know the case he must meet in a judicial hearing, or the right of an individual to have the best possible information about matters that affect him, such as his work environment, food or financial investment."

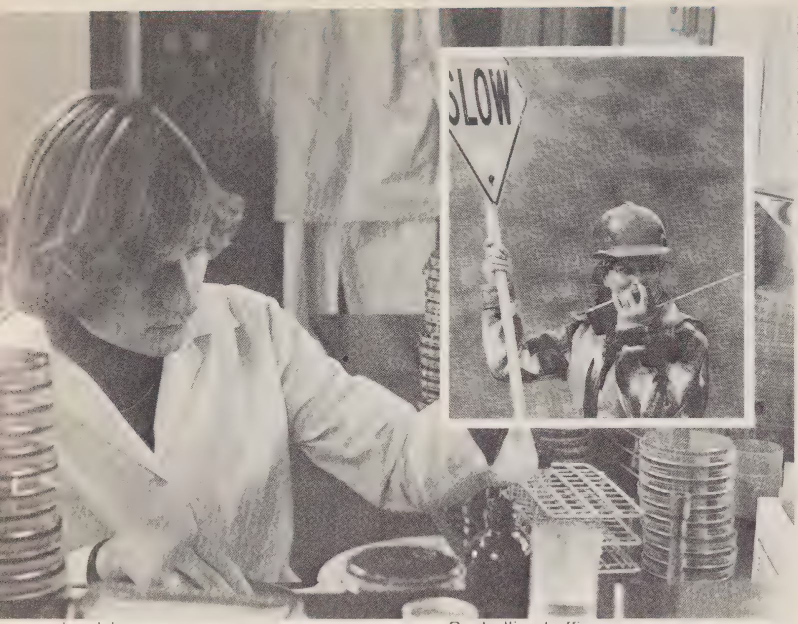
What's really needed, the author says, is a sensible, systematic, clear-cut approach to the whole question of confidential information. And that's precisely what Canada lacks, in her opinion. Tests for confidentiality vary considerably from department to department and from agency to agency; few guidelines exist for either the regulator or the regulated; and data are often treated in an inconsistent manner, leading to uncertainty and complaints.

The net result though, errs on the side of too much, rather than too little secrecy, Priest says, as "the internal incentives of the bureaucracy are against disclosure." And Bill C 43 is weighted against the person requesting information. There are so many exemptions that there's no real balancing of competing interests.

Priest argues for the implementation of new steps to meet the objective of effective regulation by accountable regulators, including more stringent tests of whether information should be classified as confidential in the first place, and a thorough scrutiny by the appropriate department or agency of information meeting the criteria, so that competing interests are better balanced.

"Provision of Information in a Regulatory Context," by Margot Priest. Technical Report No. 22.

New research on women underway



National Film Board of Canada

In a lab

Controlling traffic

The massive surge of women into the labour force over the past decade has made economic history. Analysts of this phenomenon have been busy ever since, trying to work out its implications from every possible angle. As they fast learned in the course of their studies, easy answers just didn't exist for the countless new questions raised. Extensive and thorough-going research became top priority.

Now the Economic Council has entered the field, with a new project just under way. It is an attempt to study women's entry into the labour market in a "comprehensive economic fashion," according to economists Jac-André Boulet and Laval Lavallée.

In a paper outlining a possible analytical framework for this undertaking, Boulet and Lavallée stress that "the questions we intend to address are complex ones. We have published this working paper in the hope of obtaining as many comments as possible, so as to ensure that the subject matter is adequately covered."

The Council project was launched to discover why working women continue to suffer disadvantages in comparison with their male colleagues, especially in getting jobs, opportunities for promotion, and equal pay. Various explanations have been advanced to account for these differences, Boulet and Lavallée say, including educational background, sociological differences, stereotyping, and so on. But, they argue, two basic economic questions haven't received much attention: whether employers look on female employees as a riskier investment than males, for the simple reason that they will probably quit their jobs to have and raise a family; and whether this attitude means employers go on steering women into poorly paid jobs requiring less skill and experience, where their potential remains untapped and reliability is less important.

That might explain in rational economic terms why women continue to have problems in the labour market, the economists say. They plan to investigate their hypothesis by looking at such questions as the division of labour within the household, and how women's access to the labour market might be affected by educational opportunities and socio-economic considerations.

If their hypothesis can be proven, Boulet and Lavallée say, then governments, not employers, will have to take action. If indeed women make a positive contribution to society by having and raising children, the government "has a duty to intervene for reasons of justice, equity and efficiency so as to distribute the costs of having children between those who reproduce and those who do not." That might require giving women better chances at obtaining loans and scholarships for higher education. Or it could entail paying a premium to employers who hire women or keep them on the payroll through pregnancy and maternity leave. Or it could involve changes in family allowances, in tax policies or other forms of public financing.

"Women and the Labour Market: An Analytical Framework," by Jac-André Boulet and Laval Lavallée. Discussion Paper No. 207.

National Film Board of Canada

In an office

Training programs scarce here

Canadian industry has always been able to count on a steady flow of workers from Europe to fill its highly skilled jobs – at least until quite recently. Perhaps that's why apprenticeship programs are not well-developed in this country. In any event, existing training programs here don't seem to be turning out Canadians with the necessary skills to fill the jobs that are opening up. The irony is that, while unemployment is at record high levels, a serious shortage of skilled workers has emerged.

An Economic Council survey (see Au Courant Vol. 1, No. 2, p. 18), of almost 1,400 Canadian firms found that half were having difficulties finding workers with the necessary skills.

Besides identifying which industries were short of skilled workers, the survey was also designed to find out what kind of occupational training programs were being carried out by Canadian industries.

The original response was encouraging. Fully 60 per cent of business establishments surveyed reported that they had at least some vocational training programs. But it turned out that two-thirds of these programs lasted only three months or less.

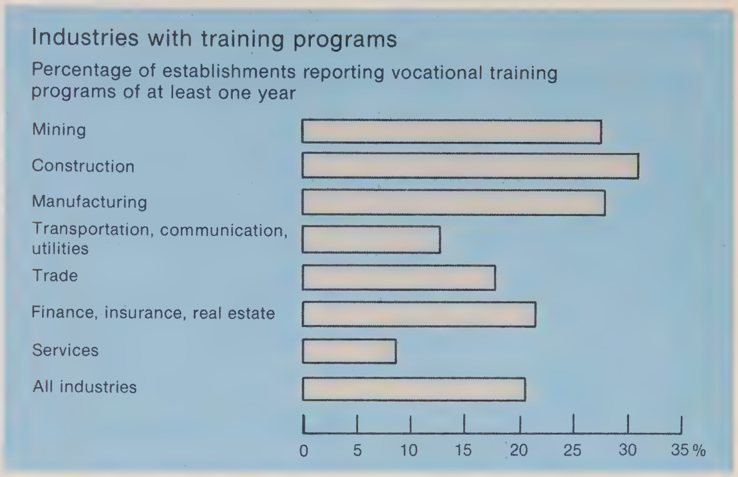
Only 20.3 per cent reported training programs of at least one year's duration; 14.6 per cent carried out training designed to last two years or more.

Companies operating in western Canada, the survey found, were more likely to have training programs than those in Ontario, the Atlantic provinces and Quebec. Longer-term training programs were also more common in the West than elsewhere in Canada.

Companies involved in finance, insurance, real estate and mining reported the greatest (84.3 per cent) use of training programs. Construction, transportation and communication industries were the least likely to have vocational training.

Council researchers also asked companies why they were not undertaking their own training programs. The answer was simple. Of the companies which replied, 51.4 per cent said they felt no need to start training programs because they could generally fill their skilled labour requirements by hiring trained workers from outside.

As well, the researchers found that companies which did not engage in personnel planning, a majority, were also less likely to institute training programs.



Existing training programs were mainly in the areas of product fabricating and repair, clerical work, sales and management. The survey found that 58 per cent of all training efforts and 54.2 per cent of all trainees fell into these categories.

Most training programs cited were short term and so were not enough to give workers anything but the basic skills they needed to do specific tasks.

All of the longer-term apprenticeship programs were to be found in machinery, product repair and manufacturing, and in the construction trades. And only 15.7 per cent of the companies surveyed used the apprenticeship system. Most of those were situated in western Canada.

Interestingly enough, the European countries, which have provided most of Canada's skilled labour in the past, make extensive use of apprenticeship schemes for acquiring high-level skills.

Companies reported difficulty in fixing a cost for training, but their estimates indicate an average cost of $2,551 per trainee. Not surprisingly, longer-term programs were more costly, and this may deter firms from setting up long-term programs.

In spite of a widespread belief that governments provide the financial inducement companies need to undertake vocational training, the survey found that "most training instituted in the private sector goes on without any financial help from public sources." Only 20.2 per cent of the companies with training programs got any financial help from governments.

Most government aid went to training for blue-collar skills. Subsidization of clerical, sales and management training was rare.

In a report on the Human Resources Survey, Council researcher Gordon Betcherman concludes that, although Canadian industry does have a fair amount of vocational training, it "is clearly not responsive to the most critical labour market demands." The report recommends that government training programs should be better designed to fill the void. "An obvious priority for government involvement concerns the development of skills for technical and trades occupations," says Betcherman.

While on-the-job training is obviously needed, a school setting is often the best way of acquiring occupational skills, either on the basis of full-time instruction or in combination with on-the-job training.

Betcherman concludes that "by utilizing the resources of the education system to complement those in industry, a creative and adaptive work force can be developed to meet the future demands of the Canadian labour market."

Meeting Skill Requirements: The Report of the Human Resources Survey, by Gordon Betcherman (EC22-100/1982E, $6.95 in Canada, $8.35 elsewhere).

Visiting experts give the

In keeping with its object
with business, labour,
interest groups, the Eco
seminars featuring well-
policy issues. Three rece

National Film Board of Canada

A modern windmill

Renewable energy

Canadians who suffer through long, cold winters want assurance that their furnaces will keep them warm for years to come. Likewise, industry in this country needs to count on sure supplies of energy on a year-round basis. So anything to do with Canada's sources of renewable energy – wood, wind, sun, water, and vegetation – is a popular topic nowadays.

A recent seminar at the Economic Council on this subject generated a good deal of interest as a result. Two experts in the field spoke at the session: Dr. Ralph Overend, of the National Research Council, who works on research and development of renewable energy; and Dr. Don Strange, senior research officer in the Conservation and Renewable Energy Branch at the Department of Energy, Mines and Resources.

After five years of research and development into our renewable energy options, according to Overend, it is now possible to estimate their state of technological readiness. Developing technologies that make it possible to use these resources is a long, slow process, he cautions. The principles of nuclear energy, for example, were known by World War II, but the first commercial nuclear plant, in Pickering, Ontario, did not begin operating until the 1970s. So we can't count on renewable resources for a reliable energy supply much before the year 2000, he says.

But even so, their use is growing rapidly, he adds. Research and development at the NRC is well underway, and concentrates first and foremost on solar energy, followed by biomass energy, (wood and wood products, peat, straw, manure and so on), wind energy, and others.

The forest provides us with our largest source of biomass energy, Overend says. In fact, he adds, the pulp and paper industry in Canada could become energy self-sufficient, by developing processes that make use of its waste wood products.

Wind can be an excellent source of energy too, he points out, in areas where winds are high and continuous – the Gulf of the St. Lawrence, the coast of the Labrador, and the North, for example. Some remote communities are now using large windmills that can produce 100 kilowatts of power without batteries (at a cost of 10¢ per kilowatt hour), with diesel engines as a reserve. Newfoundland could have 100 of these windmills in operation by 1990, Overend observes.

The federal government is very involved in the renewable energy field, Don Strange says. A number of projects have been launched to encourage development in this area: one, for example, was designed to buy solar heating equipment for demonstration purposes in federal buildings; another gave grants to pulp and paper companies to install equipment to burn their own wood wastes; another is at work developing new liquid fuels to replace oil for transportation purposes; and another gives $800 to homeowners who undertake to convert to renewable energy.

National Film Board of Canada

First attempt at industrial policy?

Still searching for an industrial strategy

Although the debate continues on whether or not Canada has an industrial strategy and what that strategy should be, the concern about industrial policy is nothing new. In the nineteenth century, the railways were the chief instrument of industrial development but, according to historian Michael Bliss, the nineteenth century concept of industrial policy stopped at tariff protection, which was seen as sheltering Canadian manufacturing from foreign competition and creating jobs for Canadians

In a paper specially prepared for the Economic Council and presented at a recent seminar, the University of Toronto professor says that nineteenth century politicians were just as inclined towards government intervention as their modern counterparts. The crucial difference is that even though the potential wealth of government then was enormous, a meagre cas flow reined in their ambitions.

According to Bliss, most government attempts at intervention over the past h dred years have only produced results t would have come about in any case.

At the end of the last century, Canac governments approached the railways v a fever only recently matched by invest ments in the search for frontier oil. The undertook a massive subsidization of ra way construction.

But what might appear to have been grand design for industrial developmen was nothing of the sort, Bliss argues. T policies were disparate and at times cor flicting.

It was only in the 1930s that Canada began to look at industrial policies in te of cohesive strategy. Prime Minister Be nett proposed an integrated tariff polic

naintaining regular contact nent, and issue-oriented Council periodically holds commentators on public ons are highlighted below.


est management needed

Forests

For Canada's first settlers, trees got in the way of good production. Entire forests were burned down to clear the land for crops.

Later in our history, logging was important because it provided masts for European navies. It was only at the end of the last century, when newsprint was in demand and construction was thriving that planners began to realize the economic potential of Canada's forests.

And even then, forests were thought to be virtually inexhaustible. We still list trees as a renewable resource today.

The problem, according to Les Reed, assistant deputy minister at the Canadian Forestry Service, is that harvesting is not matched by replanting of trees, with the consequence that our remaining forests could disappear. In a seminar on the future of Canada's forestry sector presented recently at the Economic Council of Canada, Reed says the consequences of such a loss would be immeasurable. Our water supply and the air we breathe would be affected. The blow to Canada's economy would be critical.

The forestry industry in Canada has grown to the point where it now creates direct employment for 310,000 workers from coast to coast.

Forestry production in 1980 was valued at $22 billion, with nearly $13 billion worth going for export or 17 per cent of Canada's total exports. Exports of grain, fish and other farm products together were valued at just over $8 billion.

Years of past neglect in forest management are now beginning to show, says Reed. He estimates that the annual demand for trees may now be more than the maximum allowable cut. And if that limit is exceeded for any length of time, then Canada will soon run out of wood. The allowable cut now stands at 228 million cubic metres of wood per year; but it is falling every year, while demand for wood continues to increase.

Reed says Canadians should adopt the attitude that the present generation did not inherit the forests from its predecessors, but rather has borrowed them from future generations.

It makes good economic sense, he says, and sound common sense too, to pass on the forests in a better state than we found them. Right now, the danger is that too little has been done in the past to ensure the renewal of forests. Private companies and governments have received tremendous benefits from harvesting the forests, he says, but have put very little of their earnings back into replenishing the supply of trees. Forestry firms return less than one cent out of every sales dollar to forest management.

In the past, the federal government has carried the burden of forestry research. Even today, its forestry research budget of $44 million exceeds that of all the provinces and the forest industries, which together spend about $20 million.

Greater attention to forest management will not only ensure the survival of current forestry industries, Reed says, but would mean that Canada could double its production and sale of forest products.

Fortunately, both government and industry are finally realizing that better husbanding of Canada's forests is needed, opening the possibility not only for the survival of the forestry industry but also for its expansion.

Canada is well-placed to take advantage of increased foreign demand for wood, Reed says. With research and proper forestry management, the timber harvest could be increased by 40 per cent between now and the year 2000. Such an expansion would create an additional 75,000 to 100,000 jobs and result in additional foreign exchange earnings of $12 billion.

tect Canadian industry and blast Cana-s way into world markets, and this was rhaps the closest a Canadian govern-nt has come to advocacy of a compre-sive industrial strategy," says Bliss.

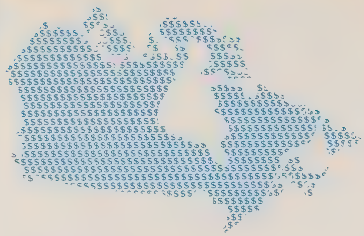
After World War II, economic develop-nt was dominated by the proclivities of Liberal government's minister-of-all-ngs-economic, C. D. Howe. Howe's ustrial strategy was "premised on the ief that Canadian benefited from infu-ns of capital and skill from outside." we's policies, according to Bliss, "reflect reater degree of coherence and conscious nning than any since Confederation."

But the country was entering several ades of new problems, including high employment, regional disparities and the line of the traditional manufacturing tor.

By the early 1970s, soaring petroleum prices had been added to the list of problems. Governments reacted more with fervor and energy than with conscious planning. Public utilities were built up to provide basic services, the tax structure was adjusted to encourage investment, and protectionist policies were developed for agriculture and primary industries. The end result was a myriad of policy decisions designed to influence firms and their markets. These, according to Bliss, "evolved over time into a blooming, buzzing confusion of policies at every level of Canadian government."

The hope of modern politicians is that this collection of policies can be rationalized into a "new national policy" of industrial development.

Financing Confederation Today and Tomorrow



The Economic Council of Canada has undertaken a major study of the broad, complex and massive fiscal relationships between Ottawa and the provinces in an effort to promote greater public understanding of the issues involved and to contribute to the policy debate with respect to the current review of these arrangements being undertaken by the two levels of government.

These relationships, which to a considerable extent are now governed by the Federal-Provincial Fiscal Arrangements and Established Programs Financing Act, 1977, are little understood outside a small coterie of Ministers and their officials, yet they closely touch the daily lives of every Canadian.

In 1980-81, some $13 billion in cash was transferred to the provinces by the federal government, a sum that accounted for 20 per cent of the latter's expenditures. While these funds were of significance to all provinces, for those in the Atlantic region they represented as much as 50 per cent of total revenues.

Out of this $13 billion, nearly $10 billion in cash transfers was covered by two of the major provisions of the Fiscal Arrangements Act – the Equalization Program and Established Programs Financing (EPF), the latter involving transfers for health care and postsecondary education. In addition, the provinces collected nearly $4 billion in additional revenue as a result of tax points yielded to them by the federal government as part of the EPF provisions.

The third major element of the Fiscal Arrangements Act is that with respect to the Tax Collection Agreements between the federal and provincial governments, which contribute in an important way both to the harmonization of taxes and to reduction of the costs of collection by governments and compliance by taxpayers.

The current review of the fiscal relationships between the two levels of government is in line with that regularly conducted every five years throughout the postwar period. It is expected that the review will be completed and new legislation to replace the existing Fiscal Arrangements Act of 1977 put in place by March 31, 1982, when the provisions in the present statute with respect to equalization expire.

Far-reaching changes were made in the fiscal arrangements following the last intergovernmental review in 1977, particularly with respect to federal funding of provincial health care programs and postsecondary education. Nevertheless, the Council concluded in its report that "changing circumstances and practical experience dictate the need for further substantial reshaping of the policies governing these programs."

The Council said that the primary objective of its study was the determination of long-term principles to govern the fiscal arrangements between the two levels of government that were equitable, that would contribute to stability, and that were durable in the face of rapid economic change. While some of the recommendations flowing from its examination of the issues could be incorporated in the forthcoming revision of existing arrangements, the Council recognized that others required much more extensive study and debate before consideration could be given to translating them into practical instruments of policy.

In the course of assessing and evaluating the present state of federal-provincial fiscal relations so as to consider possible reforms for the future, the report examined the historical evolution of events leading up to the adoption of the existing legislation, a number of important developments that subsequently followed, and the results of practical experience with the new regime.

The study focused on five main areas of concern: the Equalization Program; Established Programs Financing and future arrangements with respect to health care and postsecondary education; fiscal co-ordination between the federal and provincial governments with respect to both taxation and economic stabilization policies; and the mechanisms and processes through which these arrangements are negotiated by Ottawa and the provinces.

The Council's report was completed before account could be taken of the major changes proposed by the Hon. Allan J. MacEachen, Minister of Finance, in his Budget of November 1981, with respect to the fiscal arrangements as they affected equalization and the financing of health care and postsecondary education. The Council's deliberations were, however, overshadowed to a considerable extent by earlier pronouncements by the Minister of Finance indicating his intention of seeking a saving in federal-provincial transfers between 1982-84 of $1.5 billion, which he suggested was necessary to help rectify the "fiscal imbalance" being experienced by the federal government. Because it is central to the entire issue of federal-provincial fiscal relations, it is this question of fiscal imbalance to which we first turn.

Fiscal imbalance

In the Budget which he brought down in October 1980, the Minister of Finance underlined the new priority which the federal government had assigned to expenditures aimed at promoting economic development. At the same time, the Minister also indicated his intention of seeking "significant savings" of some $1.5 billion between 1982-84 in transfers to provincial governments, particularly for those involving expenditures from the social affairs envelope (which includes transfers for health care and postsecondary education). The statement was of particular relevance because it marked the first time the federal government had approached fiscal negotiations with the provinces with the expressed intention of reducing the amount of transfers previously provided.

In a submission in April 1981, to the federal Parliamentary Task Force on Federal-Provincial Fiscal Arrangements established for the first time to consider such issues, the Minister sought to justify such a cut-back on the grounds that the federal government was suffering from a "fiscal imbal-

ance." This, he maintained, was evident from the large and persistent deficit of Ottawa compared with the surplus position of the provinces as a whole.

In considering this issue, the Council acknowledged that the argument of the federal government might have merit if it could be shown that there were structural obstacles present in the federation which prevented either the federal or provincial governments from gaining access to revenues they required to fulfil their constitutional responsibilities. "Since both federal and provincial governments in fact have access to all major revenue sources, the Council sees no evidence that such a structural imbalance exists in our federal system," the report asserted.

While the level of the federal deficit had been a matter of concern to the Council, it concluded that there was no meaningful evidence to indicate that the increase that had taken place between 1975 and 1980 could be linked specifically to increases in federal-provincial transfers.

Although the provinces as a whole have been in a surplus position for some years, all but the three resource-rich western provinces have experienced deficits despite efforts to restrain expenditures over a prolonged period and it is anticipated these deficits will increase significantly over the next five years. Federal transfers constitute a large proportion of the revenues of a number of provinces. "Strictly from a budgetary point of view, therefore, the Council sees little merit in reductions in federal-provincial transfers that would, in effect, merely shift part of the burden of a declining federal deficit to less fortunate provincial governments." "Nor," the report said, "is the expressed desire of the federal government to strengthen national standards in the areas of health insurance and postsecondary education consistent with a simultaneous policy of restricting federal funding."

In addition to these considerations there was the fact that the recent federal-provincial agreements on energy pricing and revenue allocation had substantially improved the budgetary outlook of the federal government. For all these reasons, therefore, the Council urged the federal government to reconsider its proposal to reduce the level of transfers to the provinces below the level provided for under the existing arrangements.

The equalization program

Objectives and results

Canada's program of federal equalization payments to the "have-not" provinces has been described as the "glue" that holds the nation together. In 1980-81, payments amounting to $3.4 billion were made under the program to 7 of the 10 provinces.

Yet the equalization system has encountered significant difficulties in recent years. The fundamental goal of the program is to ensure that through the provision by the federal government of sufficient financial means, all provinces have the opportunity to provide reasonably comparable levels of public service to their citizens at reasonably comparable levels of taxation.

The program has, however, fallen well short of achieving the explicit objective set for it in 1967 of raising the revenue capacities of all provinces to the national average. In 1980-81, the financial capacity of seven provinces, including revenue from equalization payments, ranged from only 82 to 87 per cent of the national average when all provincial natural resource revenues are included and account is taken of all local property taxes, not just those for school purposes which are included in the present formula. Even if all federal transfers are considered, the revenue capacity of 7 of the 10 provinces in that year was still 8 to 14 percentage points below the national average.

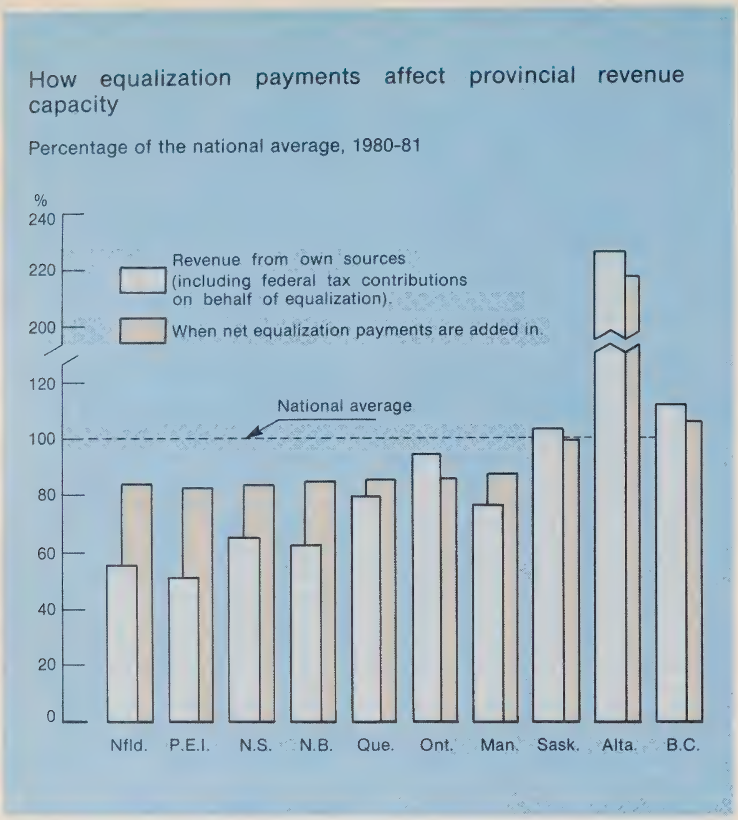
The primary factor responsible for the failure of the Equalization Program to achieve its underlying objective has been the substantial increase in revenues from non-renewable energy resources that have flowed into the coffers of the western provinces since 1973. "These increases in revenues did not accrue to the same extent to the federal government, which was nevertheless forced as a consequence to make large disbursements in equalization payments to the 'have-not' provinces out of its general revenues," the Council pointed out. "The resulting pressures on its budget led the federal government to impose a number of *ad hoc* limitations on the extent to which resource revenues enter the equalization formula and the extent to which provinces are eligible to receive payments."

While all provincial revenues from renewable natural resources continued to be fully included for purposes of calculating equalization payments, the federal government in 1977 revised previous constraints to provide for only one-half of revenue from non-renewable resources to be taken into account. Furthermore, it stipulated that no more than one-third of total equalization payments could result from the inclusion of natural resource revenues in the formula, a ceiling that could become effective in 1982. At the same time, Ottawa decided to phase out the inclusion in equalization of any revenues from the sale of Crown leases over the period 1979-81.

The report underlined the fact that Ontario had been particularly adversely affected by changing circumstances involving the Equalization Program. As the major contributors to the national Treasury, Ontario federal taxpayers bore the brunt of the increase that took place in equalization payments despite the constraints imposed by the federal government as a result of sharply increasing western resource revenues. In 1980-81, they contributed an estimated $1.5 billion of the cost of total equalization payments in that year of $3.4 billion. At the same time, however, the Ontario government was precluded by a special provision from becoming eligible for the equalization payments for which it would have otherwise qualified for the first time in history. By regulations adopted in 1978 and later by legislation, Ontario was excluded by a provision that denied such payments to any province in which personal income per capita was above the national average in the current and two previous years. It is estimated that Ontario would have been eligible to receive nearly $500 million in equalization payments in 1979-80 if that special rider had not been in effect.

The report calculated that in 1980-81, the financial capacity of Ontario in terms of its own revenue sources amounted to 92 per cent of the national average (in contrast to 53 per cent in Prince Edward Island and 232 per cent in Alberta). After equalization was taken into account, however, Ontario's financial capacity was reduced to 86 per cent of the national average, which was lower than that of some provinces receiving equalization payments.

At first glance, the report pointed out, the resource-rich western provinces



appeared to escape lightly from the burden of financing the costs of equalization payments because much of their resource revenue flowed into provincial Treasuries and, hence, was not liable to federal taxes as would be the case if such revenue ended up in the hands of individuals and private companies.

"This, however, is only part of the picture," the report emphasized. "Council research indicates that the amount of redistribution that takes place as a result of inclusion of natural resources in the Equalization Program is dwarfed by the amount of redistribution that has been taking place through other mechanisms. For example, an estimated $13 billion of natural resource rents were redistributed from Alberta to the rest of Canada in 1980 mainly as a result of the federal government's policy of maintaining the domestic price of oil and gas well below world levels. This implicit transfer exceeded *all* cash transfers from the federal to provincial governments in 1980-81."

In search of a foundation of principles

The evident shortcomings that have developed in the present Equalization Program as a result of a series of *ad hoc* responses to radically altered circumstances led the Council to search for a set of basic principles that might provide the foundation for a more sound and durable system of equalization in the future.

The report took as its starting point the fundamental conclusion that the underlying goal of equalization should be twofold – to achieve *equity* among Canadians wherever they lived in the country and the highest possible degree of national economic *efficiency*. The goal of equity is in line with the commonly accepted objective of government in Canada to reduce inequalities in real income between people and to ensure that individuals in similar economic circumstances are treated in the same way wherever they live in Canada.

The Council acknowledged that there were sharply different opinions with respect to the system that would best meet these objectives. Some observers who have argued that the present system of intergovernmental transfer payments has reduced a number of the provinces to an unhealthy state of dependence on federal largesse, contend it should be replaced entirely by a system of transfers to people. Others have argued that equalization payments and other forms of special assistance to governments and individuals in the less wealthy areas of the country have impeded economic efficiency by short-circuiting the adjustments that would otherwise take place – for example, through migration of workers from these areas to those experiencing greater economic activity.

The Council pointed out that such contentions also raised another basic question: "Why do we need an intergovernmental transfer system when we have in place, at both levels of government, a well-established system of taxes and transfers among persons, households and firms for regulating the allocation of economic activity and the distribution of its fruits?"

The report concluded that an equalization program involving transfers between governments was a necessary complement to the individual system of taxes and transfers because the latter is unavoidably based essentially on the nominal or "market" income of individuals. Such an approach, however, fails to take account of the net fiscal benefits of people in different provinces – that is, the goods and services they receive from provincial governments in many forms in relation to their cost through the imposition of various provincial levies. "Differences in net fiscal benefits may arise," the study explained, "because provinces with high per capita incomes can finance a given amount of public services with less tax effort (lower tax rates on income) than provinces with lower per capita incomes. These differences may also arise because a resource-rich province can use revenues collected from its natural resources (such as oil rents) to finance public services and at the same time maintain relatively low levels of taxation."

As a result of the impact of these fiscal benefits, a Canadian living in one province with the same market income as a fellow citizen living in another province can have a very different *real*

income when the net fiscal benefits provided by their respective provincial governments are taken into account. If an appropriate degree of equity is to be achieved in these circumstances, a system of intergovernmental transfers is required to reduce or eliminate such differences.

Under the broad concept of equity that is generally accepted, such differences in the well-being of Canadians resulting from variations in net fiscal benefits available from various provincial governments should, in the view of the Council, be largely eliminated – as would be essentially the case in a unitary state. Such a goal however, must be modified to take account of the provisions of the Constitution, which appear to confer certain property rights on the provinces and their residents with respect to natural resources. The Council arrived at the conclusion, therefore, that only a portion of the revenues received by provincial governments from natural resources, and only that amount that was passed on to provincial residents as benefits in the form of various goods and services or tax relief, should be subject to equalization. Resource income channelled into savings, such as Alberta's Heritage Fund, should not be included. The balance would be treated, in effect, as if it were distributed to provincial residents in the form of income and made subject to federal tax.

While equity would appear to dictate only the partial equalization of provincial natural resource revenues because of the overriding considerations established under the Constitution, it was the Council's judgment that full equalization of such revenues was in fact required from the point of view of national economic efficiency. Although some have argued that equalization payments impede necessary adjustments in the economy that otherwise would take place automatically in response to market forces (such as the migration of workers within the country), the study arrived at the very opposite conclusion.

"Economic efficiency requires that factors of production be guided among activities (including those in different provinces when this is an option) by signals related to their productivity in different locations," the report said. "Differences in net fiscal benefits among provinces tend to distort the market signals that would otherwise be expected to do this job. The only solution to this problem is to eliminate the source of such distortions – that is, the differences in net fiscal benefits arising from provincial government activities."

The empirical research undertaken at the Council demonstrated that the past effect of equalization and of differences in provincial government financial capacity (arising from natural resource revenues in particular) on the interprovincial migration of labour have been significant enough to justify consideration of the potential efficiency costs of adopting alternative approaches to equalization in the future. It was shown that for low-income persons in particular, these aspects of fiscal structure have been of roughly the same importance as regional differences in employment and income in explaining the recent trends in interprovincial migration.

Given some unavoidable conflict between the requirements of equity and economic efficiency, the Council concluded that precedence had to be given to the considerations of equity, which dictated that only a portion of provincial resource revenues be taken into account for equalization purposes.

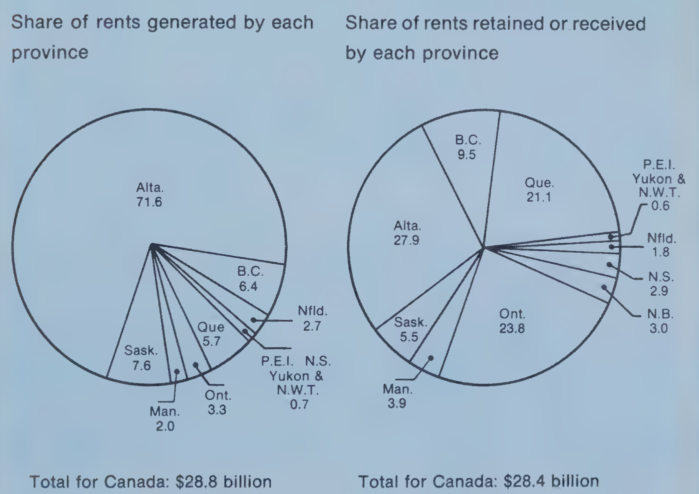
Economic "rents"

The massive rise that has taken place in the world price of oil since 1973 has resulted in a correspondingly large increase in the value of Canada's natural resource production related to energy – particularly of petroleum, natural gas and hydro-electricity. Because the cost of production of energy from conventional sources of supply has risen only moderately in comparison, huge unearned gains have resulted – what are often referred to as "economic rents."

Some of these rents have been absorbed by governments through increased levies on energy-related natural resources, as reflected in the substantially increased revenues over the past several years of the western provincial governments. Some of the rents have also undoubtedly been retained by private producers of such resources. But through a variety of mechanisms established by governments – pricing policies, taxation, contractual arrangements, and equalization payments – a substantial amount of these rents has been redistributed throughout Canada.

As a result of federal policies which

Natural resource rents — where they come from and where they go



have held the domestic price of oil and natural gas well below world levels and well below the cost of developing many new energy sources, for example, a large proportion of these rents have been passed on to consumers across Canada in the form of reduced prices.

Similarly, the consumers of hydro-electricity produced by provincially owned utilities have also enjoyed considerable subsidy as a result of three major factors. First, most provincial utilities have not been imposing sufficient charges to recover a normal return on their investment. Second, the provinces have not been collecting the additional economic rents that are available because of the increase in the value of energy that has occurred over the past several years. Third, the price of electricity has been held down to the extent it is produced by thermal generation fired by oil or gas, which fuels themselves are subsidized.

All of these developments have important implications for the Equalization Program because, to the extent that economic rents are not collected by provincial governments, they are not taken into account for purposes of determining equalization payments. In fact, only a relatively small proportion of resource rents are distributed through equalization payments. As the Council emphasized, the economic rent generated from natural resources in recent years has assumed major proportions in the Canadian economy. The report estimated that in 1980 the economic rent from oil, natural gas and hydro-electricity, together with relatively minor rents from other natural resources, totalled \$29 billion. This was equivalent to approximately 10 per cent of the gross national product in that year and twice the proportion of only two years previously.

Of the total of \$29 billion in rents generated in the producing provinces, however, an estimated \$13.5 billion were redistributed from the provinces in which production occurred. This sum exceeded the total of all federal cash transfers to the provinces in 1980 of nearly \$13 billion. Seven provinces were net beneficiaries of this redistribution.

This redistribution of rents had important consequences for many provinces. For example, a total of \$20.6 billion of such rents was produced in Alberta, but around \$12.7 billion was redistributed to other provinces. Even after taking account of the fact that Ontario bears the lion's share of the cost of financing the costs of equalizing provincial natural resource revenues, its residents were still the prime beneficiaries of the redistribution of natural resource rents to the extent of \$5.9 billion.

Reform of the program

As a result of its study, the Council reached the view that little change is needed in the present equalization system with respect to the determination of payments based on provincial revenues from areas other than natural resources. It recommended only one modification in this aspect of the program – the extension of the formula to cover all local government revenues from property taxes, rather than just school property taxes – which have been included since 1973.

The Council did propose, however, that significant changes be considered over the longer term with respect to the treatment of provincial natural resource revenues. It advocated that these changes be in line with the following principles:

- that all provincial natural resource revenues – including those economic rents which are not collected, but passed on to consumers directly in the form of subsidized prices – be fully included for purposes of determining equalization payments;
- that such resource revenues should be subject to equalization only when they are employed directly or indirectly to provide goods and services or other benefits, with funds diverted to savings funds being exempt;
- that the amount of intergovernmental transfer payments based on provincial resource revenues should be calculated according to the federal tax rate that would apply if such revenues were considered as personal income subject to federal taxation.

Pending the establishment of more permanent provisions for the treatment of resource revenues under the equalization formula, the Council urged that any interim arrangement constrain the growth of payments based on such revenues by limiting them to the rate of growth of equalization based on non-resource revenues or the rate of growth of GNP.

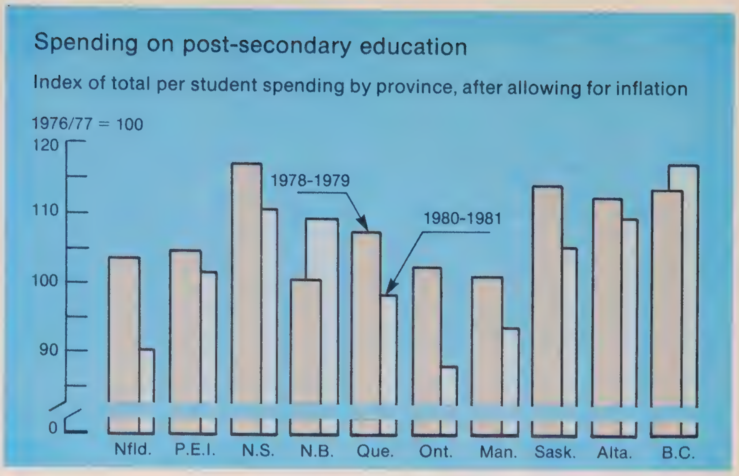
Finally, the Council concluded that special conditions such as that which at present make Ontario ineligible to receive equalization payments to which it would otherwise be entitled under the formula had no place in an equalization program. "The equalization formula should apply uniformly to all provinces without exception," the report asserted.

The application of the principles of equalization advocated in the study would have major financial implications for the federal government and many of the provincial governments. The inclusion of all municipal property taxes in the formula would have the effect of increasing total payments without substantially altering their distribution. The calculation of equalization payments based on the formula for dealing with resource revenues proposed by the Council would have the very opposite effect, tending to reduce the total amount of payments made by the federal government and extensively changing their distribution to individual provincial governments.

Had the system for treating natural resource revenues advocated by the Council – including that for uncollected hydro-electricity rents – been in effect in 1980-81, federal equalization outlays would have been reduced by some \$760 million from their level under the current program of \$3.4 billion. Because its residents receive substantial benefits from hydro-power consumption, payments to Quebec would have been reduced by \$568 million to \$1.15 billion under the existing program, and Manitoba's by \$103 million to \$240 million, while payments to Saskatchewan – which produces relatively little hydro-electric power – would have more than doubled to \$88 million.

The report also included projections of the financial implications to 1986-87 of adopting a variety of different equalization formulas. It estimated that if all municipal property taxes were equalized, the rider excluding Ontario eliminated, and natural resource revenues treated in the manner proposed by the Council (except that uncollected hydro-electricity rents were excluded from the calculation), total federal payments would be lower than under the current program in every year over the period by 11 to 14 per cent. If instead, the growth of equalization payments associated with resource revenues were constrained to the rate of growth of GNP beginning in 1982-83 as recommended by the Council as an interim measure, it is estimated that payments would be about 8 per cent higher each year to 1986-87 than if the current program were extended.

Providing for the health care and postsecondary education of Canadians



Established Programs Financing

Under the Constitution, health care and education are primarily the responsibility of the provinces. During the postwar period, however, a broad national system of health care and postsecondary education was established in Canada with substantial financial support from the federal government. Up until 1977, Ottawa paid for approximately 50 per cent of provincial operating costs for postsecondary education and for insured hospital and medical care services which complied with detailed conditions laid down by federal authorities.

Over an extended period, the provinces increasingly chafed under what they regarded as the rigid and inflexible requirements they were obliged to meet in order to qualify for the sharing of health and education costs, while the federal government became increasingly concerned about its inability to curb rapidly mounting expenditures within the prescribed areas.

In an effort to meet both of these concerns, the previous shared-cost funding of health care and postsecondary education by the federal government was replaced by a system of block grants under what was termed Established Programs Financing (EPF), which formed part of the Fiscal Arrangements Act of 1977. EPF also provided additional funds to help cover the cost of Extended Health Care services provided by the provinces that went beyond those covered by the hospital and medical insurance programs. The provinces acquired considerably greater freedom to allocate spending in line with their own perceptions of need so long as they continued to adhere to the pursuit of certain broad objectives with respect to health care. At the same time, federal transfers were no longer linked to provincial costs. The federal government agreed instead to make annual cash payments to the provinces, the yearly increase being linked to the rise in gross national product, and also transferred to the provinces the yield from certain percentage points of personal and corporate income taxation. In 1980-81, the value to the provinces of these cash payments and tax revenues amounted to around $10 billion.

While the provinces have generally been satisfied with their experience under EPF, the federal government has not. It has suggested that its share of the costs of health care and postsecondary education services administered by the provinces has increased unduly, the corollary being that the provinces have been bearing a significantly lower proportion than they did under the shared-cost programs. As noted previously, the federal response has been to propose a reduction in the amount of transfers for these established programs under the new Fiscal Arrangements Act to be adopted in 1982. At the same time, however, Ottawa has also criticized the provinces for failing to maintain adequate services without resort to excessive user fees, such as the extra billing by physicians over and above the standard medical fees provided under provincial medical insurance plans. Federal authorities have indicated that an effective mechanism should be established to enable them to ensure that national health care standards embodied in existing or new legislation are maintained.

Based on its studies, the Council concluded that "the provinces, for the most part, have not taken undue advantage of the increased flexibility of Established Programs Financing to reduce their spending on health, higher education and related programs." While some spending restraints have occurred, "generally they appear to be in line with EPF objectives. The analysis also shows that some major changes have taken place in the type and range of health services, but these changes, too, could be expected under the more flexible arrangements of EPF funding."

The report noted that there had been virtually no decline in provincial spending on health care and postsecondary education since 1977 in relation to GNP. At the same time, however, it was also evident that federal transfers accounted for a somewhat larger proportion of provincial expenditures than they had prior to the adoption of EPF; in 1980-81 the increase in the federal share as a proportion of GNP was around 4.5 per cent (excluding additional payments made as part of the revenue guarantee offset). The study indicated that the primary factor responsible for this increase was the escalation formula under which the increase in federal EPF payments is linked to the average rise in GNP over the previous four years – an increase that was significantly higher in the period prior to the introduction of EPF than in the years that followed.

The Council nevertheless opposed any cut in federal transfer payments under EPF because it would only shift the burden of costs from one level of government to another, with the "brunt of the adjustment falling on the provincial taxpayer or recipient of services."

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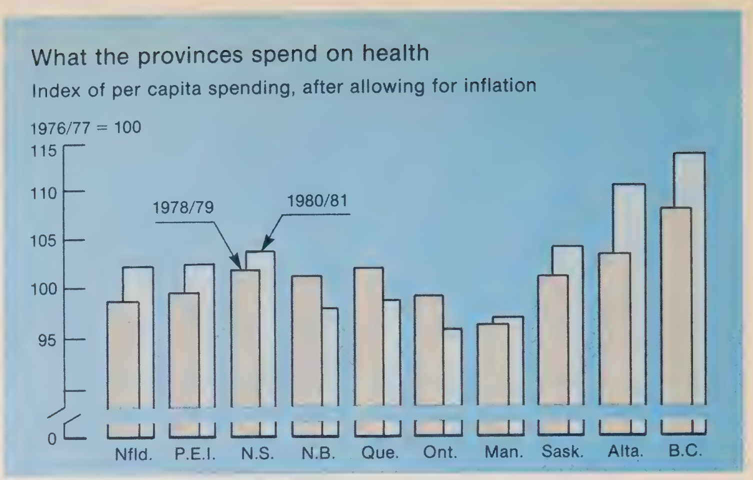
Strengthening Canada's health care system



During the 1950s and 60s, a national health insurance system was established with the broad objective of providing a reasonable level of health care to all Canadians regardless of income or where they lived in the country. In 1980-81, a substantial proportion of the $10 billion in cash transfers and revenue from tax points transferred to the provinces under EPF was aimed at covering the costs of provincial hospital insurance, medical insurance and extended health care programs.

Several years after the establishment of this national system, however, major disparities continue to exist in the level of health services provided across the nation. At the same time, the Council noted that some serious concerns have been voiced in recent years with respect to the future of the existing system.

"There is public concern that health care will become less accessible to Canadians because of budget trimming by governments and opting out by physicians," the report said. "The provinces are concerned that transfers from the federal government will not be sufficient to meet the cost of health care, especially in the case of the poorer provinces. The federal government is concerned about the growth in its expenditures and the danger that some provinces may be unwilling (and others unable) to maintain today's standards of health care if it should reduce or relinquish its role of providing financial assistance in these areas."

The Council's study indicated that wide variations existed in the level of health costs and services between provinces. During the period from 1976 to 1978, for example, hospital operating expenditures on a per capita basis ranged from a low of 66 per cent of the national average in Prince Edward Island to a high of 117 per cent in Quebec. Such variations were due in almost equal measure to differences in the number of patient-days in hospital on a per capita basis and of the costs per day of maintaining a patient in hospital. By the same token, the output of physicians in terms of the volume of services provided was found to vary by 20 to 30 per cent between provinces. Access to physicians also differed sharply, being 40 per cent below the national average in the Atlantic Provinces and as much as 10 per cent above the national average in Ontario and Quebec.

Notwithstanding these substantial disparities between provinces in the level of health services provided, the study underlined the fact that the level of health of Canadians, as measured by life expectancy and infant mortality, varied very little between provinces. "It is of some importance to attempt to determine why provincial health expenditures vary so much while provincial life expectancy varies so little," the report asserted.

It concluded that one important factor accounting for major differences in the average number of days that patients spent in hospital was differences in the average age of a province's population. Those provinces with a larger proportion of the elderly – such as Prince Edward Island, Manitoba, Saskatchewan and British Columbia – registered a higher number of patient-days in hospital per capita simply because treatment of older people took greater time on average than in the case of the young or middle-aged. A second important factor accounting for disparities in the level of health services generally appeared to be attributable to differences in the number of practicing physicians per capita, which in turn had an important bearing on the level of available hospital services.

Council recommendations

In its report, the Council proposed a series of measures both to strengthen health care and postsecondary educational services across the country and to improve the ability of Parliament and the public to maintain continuing scrutiny of developments in these two fields.

The Council underlined the need to establish a system that would provide for a greater measure of accountability as to the efficiency and effectiveness with which federal funds transferred to the provinces for health care and postsecondary education were being employed. "As a first step in the process of providing for greater accountability, we propose that the transfers by the federal government to the provinces under EPF for health care and postsecondary education be allocated separately so that the manner in which those funds are employed can be more readily determined than at present," the Council stated. "As a means of more closely monitoring developments over a wide area of concern with respect to health care expenditures and services, the Council concludes that it is essential for the federal government, in co-operation with the provinces, to establish a system under which all relevant and up-to-date statistics would be made available on an annual basis. This would include statistics on the operations of all hospitals and mental institutions, physicians' services, and extended care facilities."

As a final step in the accountability process, the Council recommended that the Minister of Health and Welfare Canada table an annual report in Parliament on the performance of the national health care system "so that all information pertaining to federal-provincial funding, levels of service, accessibility, provincial disparities, and quality of services will go on public record and the issues surrounding them will be open for public and parliamentary debate."

As one means of overcoming disparities in provincial health services, the Council urged that the amount of fed-

eral transfers be linked to the relative age of the population of the various provinces, with greater per capita payments made to those with a higher-than-average proportion of the elderly in order to compensate for the resulting increase in hospital costs. Such an adjustment should be made without an increase in total expenditures by the federal government on health care.

While education generally is largely a provincial responsibility, the Council contended that the federal government had an important part to play in the postsecondary area. To eliminate existing uncertainty, however, the Council called on the federal government to define more clearly the role that it proposed to carry out in future.

The report recommended that the federal government continue to provide strong support to postsecondary education on an unconditional basis so long as there is no attempt on the part of provincial governments to discriminate against students from other parts of Canada. At the same time, however, the Council pointed out that at present the federal government has no official part in the process of co-ordination of postsecondary education activities across Canada, despite its substantial financial contribution. "To remedy this shortcoming, we recommend that the federal and provincial governments establish a formal and continuing dialogue for the purpose of improving federal-provincial co-operation on matters relating to postsecondary education policies." In addition, it was proposed that the Secretary of State table an annual report in Parliament "on the effectiveness of federal programs relating to postsecondary education."

The harmonization of fiscal and stabilization policies

An important objective of any federal state is the harmonization of the fiscal policies of federal and provincial governments, such as those involving tax, spending and other similar measures, and also of policies aimed at achieving stable economic growth.

As the Council pointed out in its report, the aim of fiscal harmonization is the establishment of arrangements "that permit provincial governments to institute expenditure and income distribution policies according to their own individual priorities – policies that, at the same time, cause the least fiscally induced distortion in the distribution of the economy's resources."

To a considerable extent, tax harmonization in Canada is achieved through the instrument of the Tax Collection Agreements between the federal and provincial governments, which form part of the Fiscal Arrangements Act. Under these agreements, the federal government collects personal and corporate income taxes on behalf of participating provinces subject to their acceptance of certain conditions – primarily the adoption of the federal personal and corporate income tax base. Ottawa currently collects personal income taxes for all provinces except Quebec and corporate income taxes for all provinces other than Quebec, Ontario and Alberta.

The Council concluded on the basis of its study in this area that the Tax Collection Agreements have generally worked well over a period of some 40 years. They had prevented a return to the "tax jungle" that prevailed for many years prior to the last war and contributed to the maintenance of uniform practices in areas where that was important, yet they had also provided for a substantial measure of flexibility in the shaping of tax policies of the individual provinces in line with their own priorities.

At the same time, however, there had been two developments in recent years that raised cause for concern – one involving discriminatory provincial tax measures and the other involving tax competition between provincial governments.

The report noted that on a number of occasions in the past provincial governments had sought to introduce policies that would discriminate in favour of provincial residents receiving dividends from companies with headquarters within their boundaries. While the federal government refused to administer such policies on behalf of provinces for which it collected taxes, it was powerless to stop such practices in the case of provinces which were not parties to the agreements or by provinces which were parties to the agreement but which implemented such measures by non-tax programs.

"The economic case against these discriminatory measures is a classic one," the Council asserted. "They create barriers to the mobility of capital and goods within the nation. Such restrictions impede the allocation of resources to their most productive uses."

The Council welcomed the initiative taken by a number of provinces to promote the adoption of a Code of Conduct which would require the provinces generally to abstain from the adoption of such discriminatory tax measures. But it was also important that any Code of Conduct take account of the fact that the objectives of such discrimination could be achieved by other means than taxation, such as through spending policies or regulatory provisions. The report acknowledged that there was a similar reason to be concerned about certain regional development policies of the federal government that also tended to balkanize the economy, which suggested that Ottawa should be prepared to accept some constraints on its own activities in these areas.

A lesser but still significant problem was posed by the efforts of some provinces, notably the more wealthy ones, to reduce taxes in general with the intention of encouraging the location of investment and other forms of economic activity within their borders. To prevent such competition, proposals have been put forward to "federalize" corporate income taxes or, alternatively, to require the adoption by the provinces of uniform corporate tax rates. The Council concluded that such measures were impractical and unworkable. "If wealthy provinces were determined to attract business away from other jurisdictions, they could just as easily do so by 'expenditure competition' as by granting tax breaks to business," the report pointed out.

Although in the past some observers had voiced concern that the growing fiscal power of the provinces might be wielded perversely to undermine the ability of the federal government effectively to apply policies designed to maintain economic stability, this danger had, in fact, not been realized in the judgment of the Council. On the basis of studies which it commissioned, the Council concluded that provincial measures had generally been supportive of federal stabilization policies. For that reason, the report rejected suggestions that Ottawa should take steps to encourage the provinces to adopt specific measures in support of federal stabilization policies, such as borrowing from Ottawa at lower federal interest rates in times of recession in order to promote increased demand for goods and services.

Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has provided Canadians with an ongoing analysis of the economy, looking at economic policies and the effect of possible alternatives on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a significant role in public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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au courant

Economic Council of Canada

Volume 3, No. I 1982

Jobs and skills - in short supply

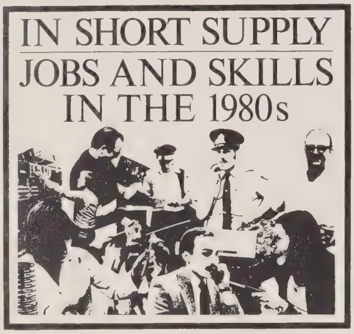
Airline deregulation: who benefits?

Gambling on new technology

Council launches western project

PUBLICATIONS

New Council report



In Short Supply: Jobs and Skills in the 1980s (EC22-108/1982; $7.95 in Canada, $9.55 elsewhere).

The Economic Council takes an in-depth look at what the future holds for Canada's labour markets, and discusses its findings in this recently published report. *In Short Supply* is available in bookstores across the country and may also be ordered from the Canadian Government Publishing Centre (see below).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research study has been published since the last issue of *Au Courant*.

Approaches to an International Comparison of Canada's R&D Expenditures, *by Kristian S. Palda and Bohumir Pazderka* (EC22-107/1982E; $5.95 in Canada, $7.15 elsewhere).

Conference Proceedings

Proceedings of conference on inflation-induced distortions in financial reporting and taxation: **Peering Under the Inflationary Veil**, *P. Grady, ed.* (EC22-106/1982E; $6.95 in Canada, $8.35 elsewhere). Available in bookstores or from the Canadian Government Publishing Centre (see below).

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Volume 3, No. I 1982

In Short Supply: Jobs and Skills in the 1980s

Highlights from the Council's report on labour markets:

Reforming Regulation

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IN SHORT SUPPLY
JOBS AND SKILLS IN THE 1980s

Canada's labour market has in many ways been a vigorous one throughout the 1960s and 1970s. The remarkable expansion in the employment rate has placed the country among the leading industrialized countries in this respect.

The other side of the coin is less bright, however. With Canada's labour force growing at an even faster rate – an average 3.2 per cent annually over these two decades – unemployment has been on the rise since the mid-1970s, with the result that the country's unemployment rate is among the highest in the industrialized world.

The severe joblessness associated with the current recession has been reinforced by a disturbing increase in structural unemployment – arising out of the difficulty of matching people and jobs – as evidenced by widespread skill shortages in the context of high unemployment levels. And since skill shortages in some areas push up salaries while workers elsewhere are jobless, the trade-off between inflation and unemployment worsens.

"The average number of jobless persons in recent months has exceeded one million, and about three times that number may experience some unemployment during the course of a year. Yet in some regions, some industries, and some occupations, there are shortages of people to fill the jobs that are available, especially in the skilled category. Clearly, these imbalances are costly . . ."

In a recently released report, *In Short Supply: Jobs and Skills in the 1980s*, the Economic Council takes an in-depth look at these and related problems, projecting present trends through the 1980s and searching out workable solutions to the current imbalances in the Canadian labour market.

In comparing the last two decades with the 1980s, one word keeps surfacing: change. For it appears that the evolution of the labour market in the 1980s will contrast sharply with that of recent years.

For instance, while the labour force grew at an average rate of more than 3 per cent annually over the 1960s and 1970s, this growth will likely slow to a rate of less than 2 per cent a year during the 1980s.

Just as significant will be the change in the composition of the labour force. While the participation rate of women will continue to rise, with their share of the labour force expected to increase from 40 per cent to more than 44 per cent during the 1980s, other developments will show a more radical departure from past experience.

The proportion of young workers will drop substantially, for instance, as the postwar baby-boom generation that swelled the labour force in the 1960s and 1970s moves through the "prime working age" group (25-44). And the working-age native population, whose annual average growth rate will run at about 2.9 per cent – compared with 1.1 per cent for the working-age population as a whole – is expected to contribute considerably to labour force growth. These changes alone suggest that flexibility will be the hallmark of effective labour force policy in the years to come.

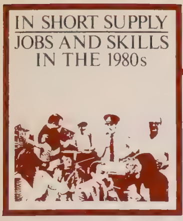
Technological change will of course leave its mark on labour market adjustment in the 1980s, says the Council, with women experiencing much of the subsequent dislocation. And with changing patterns of international trade – in particular the increasing influence of third world countries – it's clear that the 1980s will present policymakers with some tough choices in the effective allocation of manpower.

While the full impact of many of these changes is reserved for future years, other changes affecting Canada's labour market have been making themselves felt for at least a decade. Institutional changes, such as revisions to the Unemployment Insurance Act and upward adjustments in the minimum wage, continue to affect the labour market, although opinion is divided on the extent of their influence. Vast government manpower training programs, at both the federal and provincial levels, have also contributed to a change in the characteristics of Canada's labour market.

If many of these changes can be expected to create severe problems and dislocations in the coming years, current concerns provide no fewer headaches for policymakers. Within the context of a labour market out of balance, the question of equity looms large. Whatever the source and nature of Canada's labour market difficulties, the consequences are not shared evenly by participants in that market. This segmentation, says the Council, is a principal characteristic of the Canadian labour market, reflected in regional disparities, in the relative prospects of various industries and occupations, and in the experience of different age/sex groups and of those with special disadvantages when it comes to finding and keeping jobs.

Another key problem is long-term unemployment. For, says the Council, a large proportion of current joblessness in Canada is of the long-run variety, borne by a relatively small proportion of the labour force. On the demand side, skill shortages are expected to continue to pose problems for employers in particular and for the economy as a whole.

It is with such problems in mind that the Council has stressed the importance of vocational skill training, the development of an effective information system, and the encouragement of job creation programs, in order to come to grips with the present and future imbalances in Canada's labour market.



The unemployment burden

While the Canadian labour market as a whole can be said to work reasonably well, unemployment remains a severe social and economic ailment. The official unemployment rate – 7.5 per cent in 1980 – continues to climb, with 1.2 million men and women out of work and an unemployment rate of 9.6 per cent recorded in the spring of 1982. And Council research has shown that, contrary to the widely held view, most unemployment is not a short-term turnover phenomenon.

It is true that the average unemployment spell is short; about 55 per cent of those recorded in 1980 ended within one month. But the long spells – those lasting more than six months – accounted for a disproportionate share of total unemployment; obviously, an unemployment spell of six months will contribute six times more to unemployment than one that lasts only a month. Thus in 1980, the Council found that the number of unemployment spells exceeding six months represented only 4.9 per cent of all spells – but 21 per cent of total unemployment in Canada. More striking still, unemployment spells exceeding three months accounted for 45 per cent of total unemployment.

The implications of this are clear. Had all unemployment spells in 1980 ended within three months, the recorded unemployment rate would have dropped from 7.5 per cent to 4.1 per cent.

In sum, while the unemployment experience is characterized by large flows into and out of joblessness, the burden is borne by a small group of the unemployed. If we take into account those who experience more than one spell of unemployment over the course of a year, the picture becomes even more grim. Considering the total number of weeks of unemployment, without regard to the number of unemployment spells, we find that 45 per cent of all unemployment in 1979 was borne by individuals who were jobless for a total of more than six months, while those out of work for more than three months represented about 75 per cent of all recorded unemployment for that year.

Another dimension is added to the problem of long-term unemployment when we consider labour force withdrawals. Unemployed people may stop actively looking for work although they still desire jobs, because they assume that jobs are simply not available – a circumstance often described as the "discouraged worker" phenomenon. Since official estimates of unemployment exclude such people, the recorded duration of unemployment for them is also underestimated.

As an example, the Council estimates that in 1980 some 9 to 20 per cent of all unemployment spells ending in labour force withdrawal represented discouragement. This would be equivalent to between 106,000 and 225,000 people a month, on average. Had these people been included in the officially unemployed category that year, the unemployment rate would have risen from the official 7.5 per cent to between 8.4 and 9.4 per cent. And the average duration would have been lengthened considerably, giving a truer picture of the economic hardship imposed by unemployment.

But just who are the long-term unemployed? What characteristics, if any, set them apart from either those who enjoy regular employment or those who, once unemployed, find jobs again fairly quickly?

Council research and the Canada-wide Survey of Consumer Finances provide some clear indications here. Prime-age males, (the 25-44 group), for instance, are the least likely to experience long spells of unemployment. Among women, the incidence of long-term unemployment increases with age, with those in the 25-and-over age group at a relatively greater disadvantage. Being married appears to reduce the risk of long-term unemployment, especially for men.

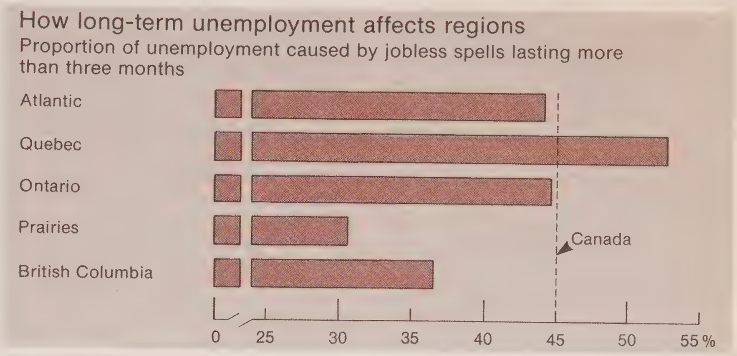
As might be expected, higher levels of education and training reduce the likelihood of extended unemployment. And the risk tends to be somewhat less for white-collar compared with blue-collar occupations.

At the regional level, the unemployed in Newfoundland, New Brunswick, and Quebec are at a disadvantage compared with the Ontario reference group, while those in British Columbia and Manitoba are in a favourable position.

New entrants in the labour force (those who never worked before) and re-entrants (those returning to the labour force after an absence of more than five years) encounter particular difficulty. Male or female, both groups are significantly overrepresented among the long-term unemployed.

The Council concludes that, while programs focusing on the short-run turnover variety of unemployment may be of some use, an emphasis on long-term unemployment will eventually be more likely to curtail the extent of joblessness.

Because the number of people who suffer from extended unemployment is quite small, it should be easier to develop intensive and carefully targeted programs to improve their employment prospects. Such action, says the Council, would not only have a greater impact on the unemployment rate, it would also be consistent with the equity concerns of Canadians.



Supply . . .

The supply side of the Canadian labour market – the working-age population in the labour force, that is those employed or seeking employment – changed substantially during the 1970s. The last of the postwar baby-boom generation matured to working age, and labour force participation rates for young people reversed from decline to increase, while the participation of women of all ages continued to rise.

These changes produced remarkable increases in labour force growth over the decade – growth, says the Council, that will continue through the 1980s, but at a considerably reduced rate. The projected increase in 1985 over the previous year will be a modest 1.9 per cent compared with the peak increase of 3.7 per cent in 1978, which is nearly a 50 per cent reduction in the growth rate over seven years.

In terms of labour market policy, this slower growth should ease the demands placed on job creation programs. But it may also magnify the problem of skill shortages in certain sectors, already a major cause for concern.

Two elements influence labour force growth: changes in the working-age (source) population – made up of most civilians 15 years of age and over – and changes in the participation rates of the different groups in that population.

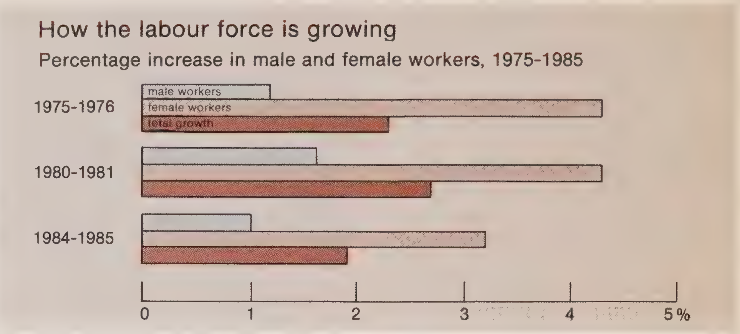
The progressive decrease in the source population growth rate from 2.3 per cent to 1.0 per cent between 1975 and 1985 reflects the decline in Canada's birth rate that started in the 1960s. This population will undergo a striking compositional change, says the Council, with the 15-24 age group declining from 1980 on and representing only about 20 per cent of the total in 1985, compared with more than 25 per cent 10 years earlier. As more of the baby-boom generation moves into prime working age, the 25-44 age group will expand significantly. These large compositional shifts, says the Council, are a major determinant of the labour supply changes occurring at present.

Rates of participation in the labour market, the second element influencing labour force growth, are also shifting significantly. Rates for the 15-24 age group are projected to continue rising, with the rate for males increasing by 7.8 percentage points to 76.6 per cent and that for females by 9.3 percentage points to 66.1 per cent between 1975 and 1985. Over the same period, the participation rate for men aged 25 to 44 years (the highest rate for all groups) is expected to remain steady at about 95 per cent, but the rate for women in this age group should show the largest increase, at 18.8 percentage points, a rise from 52.3 per cent to 71.1 per cent. Men in the 45-64 age group will continue to show slight declines in participation, due mainly to early retirement, while women in that age group will experience fairly strong increases (10.8 percentage points).

The aggregate participation rate is estimated to increase by 5.9 percentage points, from 61.1 per cent to 67.0 per cent, with the total rate for men increasing by just under one point and that for women by just under 11 points.

These changes in source population and participation rates will combine, says the Council, to produce the following labour force changes in the 1980-85 period:

- the 15-24 age group will decline in numbers, and its share of the labour force will also decline;
- the largest labour force increase is expected to be for women in the 25-44 age group;
- total average female labour force growth will be more than double that of males;
- total labour force growth will continue to slow down, for an average annual growth of 2.2 per cent;
- increases in participation rates will keep labour force growth rates above population growth rates – but not enough to counter the trend of slowing population growth.

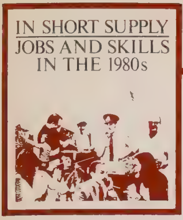


Changes in the occupational structure of the labour force in the 1975-85 period are likely to be rather small. If present trends continue, the largest changes in the distribution of the labour force by occupation will be the increases in the shares held by the management and service occupations and the decreases in those of the construction and sales sectors.

Most occupational growth rates – that is, the absolute growth in numbers of people in each occupation – are projected to be lower in 1980-85 than in 1975-80, reflecting the overall slowdown of labour force growth. The largest growth is expected to be in managerial occupations, with men and women in the 25-44 age group experiencing the most rapid labour force growth in that field.

Finally, there is the problem of occupational concentration by sex, most significant in occupations staffed predominantly by women – such as clerical and other office work. This situation arises chiefly from source population and participation rate changes and, says the Council, is likely to get worse before it improves.

These often striking changes in labour force growth and composition obviously will weigh heavily in future policy decisions concerning education, vocational training, job creation programs and on the priority given to more – and more effective – labour market information.



. . . and demand

The presence of skill shortages in the labour market, at any time, can produce unfortu-nate social and economic consequences. Bottlenecks that result can lower productivity, fuel inflation, and slow down growth – thus restricting higher employment and prosperity. When such shortages emerge, as they have recently, in a period of slow development and high unemployment, there is increasing cause for concern.

Some occupations in particular will be subject to hiring difficulties in the early 1980s – for example, product fabricating and repair, machining, and sciences and engineering. (see chart).

Many vacancy problems – such as those involving architects and engineers – can be solved through government policy measures at the level of post-secondary education. But vacancies in the highly skilled trade occupations may be harder to fill. In the past, immigration has been a major source of skilled tradesmen, a situation that no longer prevails. And while the domestic apprenticeship system is growing, it still cannot provide the number of workers required to fill the gaps.

Turning from job vacancy projections to the question of where people will be employed, it appears that both the manufacturing and service sectors will experience some growth during the 1981-85 period. But such traditional occupations as agriculture, fishing, and trapping will continue to support fewer and fewer people.

Occupations such as management, the social sciences, medicine, law, and teaching are expected to grow at a rate lower than the projected national average (2.7 per cent). On the other hand, nursing, mining and quarrying, and clerical work are among the occupations that should experience a growth rate exceeding the national average.

In any projection of future demand and shortages, of course, both job vacancies and employment growth must be considered. Employment growth in a particular field may be very rapid but, as long as enough qualified people are available, vacancies will be low and bottlenecks will not occur. Conversely, an occupation with low employment growth may still experience a high rate of job vacancies if the required workers aren't out there.

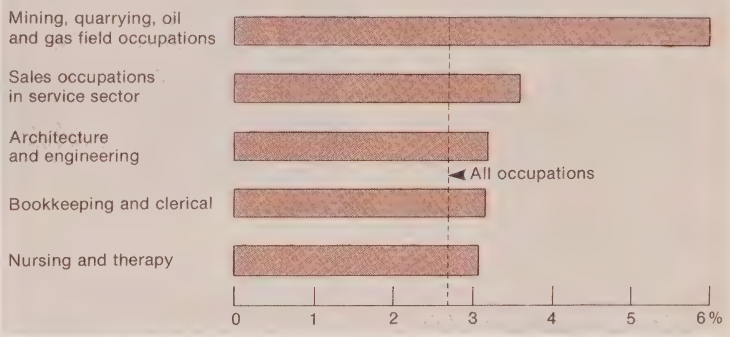
Since the absorption of women and young people in the labour force will still present problems in the 1980s, says the Council, the projected continued growth in service sector employment – which helped considerably to absorb these groups in the 1970s – strikes a note of optimism.

On the other hand, the jobs that have traditionally provided opportunities for female and youth employment are those most likely to be jeopardized by rapid technological change. While the resulting dislocation may not be enormous, the nature of the work to be performed will probably change substantially, giving rise to concern over the quality of future work in these occupations.

At the general level of labour market demand, it is clear that far more information than is now available will be required. Given the amount of time needed to develop many occupational skills, only accurate and detailed projections can prevent current programs from falling wide of the mark. The government can improve the present situation, says the Council, by providing the public with regular, comprehensive, projected information on occupational demand.

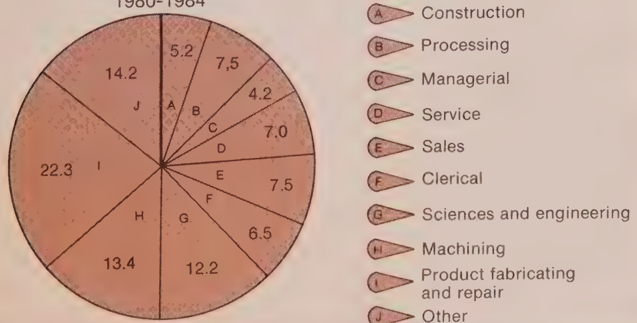
Where jobs will be available

Occupations expected to grow faster than average, 1981-1985



Where skilled workers will be in short supply

Percentage of total occupational shortages, 1980-1984



IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

Training programs miss the mark

Canada's per capita expenditures on vocational training place the country among the world's leaders. During the past year, the federal government alone spent more than $800 million on training programs.

There's only one thing wrong. It's not working.

High unemployment while jobs go begging due to skill shortages attests to this. Obviously, says the Council, the prevailing approach to training programs needs serious reconsideration. This conclusion appears to be shared by the federal government, which recently announced changes in the national training effort under the proposed National Training Plan.

It wasn't until the 1960s that the federal government assumed a major role in vocational training. In particular, the Adult Occupational Training Act (AOTA) of 1967 spawned two main manpower and skill training programs.

It is these programs that have come under extensive criticism, particularly in recent years. While many problems have been pinpointed, the most obvious failure of the system has been its inability to produce the skilled workers that the economy needs.

At least two factors, says the Council, have contributed significantly to this failure. To begin with, it is not clear that the main objective of government training has been to meet the real needs of the market. And even if that were the main objective, the data needed to forecast those needs accurately have been inadequate.

Occupational data are essential to manpower programs in general and training initiatives in particular. But the information needed to create responsive programs is still unavailable, making the identification of imbalances in Canada's labour market extremely difficult.

Duplication of effort at the public and private sector levels is one of the most striking examples of how a lack of information can misdirect the various resources involved in training programs. For example, there is considerable risk in setting up government programs without a better knowledge of the training effort being made by

National Film Board of Canada

More effective programs needed

industry. Rather than complementing training activity in industry, government programs often displace private efforts.

Another problem is that of multiple objectives. The AOTA programs have tried to serve both equity and efficiency considerations, thus risking limited success in either direction. For efficiency, the volume of training should be linked directly to labour demand. Obviously, economically active areas have the greatest need for skilled workers.

However, a disproportionate amount of federal government training has been carried out in areas of Canada where poor employment prospects prevail. Thus, in trying to reduce regional disparities, AOTA has been training workers for jobs that frequently just aren't there – while the areas in need of skilled workers are still waiting.

Emphasis on equity does have its place, says the Council, particularly where disadvantaged groups in the Canadian labour market are concerned. For instance, basic adult education courses could do much to ease the problem of functional illiteracy. The difficulties women experience in gaining access to education, training, and the job market itself demand special initiatives. And the work-related problems of Canada's native population will call for increasing attention and new solutions throughout the 1980s.

Finally, the Council notes that avenues for the development of vocational skills such as apprenticeship training, postsecondary education, and continuing adult education must be considered along with regular occupational training programs.

"A concern for vocational training and education," says the Council, "must extend beyond their contribution to economic development and performance. It is also essential to consider the importance of training in improving the prospects of those who experience difficulties in the labour market. Indeed, a major emphasis of this report is that governments must play a critical role in improving the employment prospects of *all* Canadians." A balanced approach between equity and efficiency, concludes the Council, is what's needed now.

IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

Blueprint for action

In the Economic Council's final summary of the report's findings, three main areas of concern are singled out for priority consideration: vocational skill development, labour market information, and job creation.

Manpower training in Canada, says the Council, has the potential to fill current and projected manpower requirements and to reduce unemployment caused by skill deficiency. But the system must be better aligned to the changing employment needs of various sectors.

An effective information program is essential to the successful operation of a national training system. And workers looking for jobs, employers searching for manpower, and decisionmakers planning future strategy all need precise, up-to-date data. Unfortunately, says the Council, our present capacity to produce and project detailed occupational information is limited.

". . . a highly skilled and efficiently allocated labour force is viewed as essential if Canada is to realize its potential for growth in the upcoming decade."

While part of the joint problem of joblessness and skill shortages may be solved by more effective information and by skill training, another part requires action on the demand side of the Canadian labour market. As the Council notes, a comprehensive manpower policy package requires job creation programs serving individual and social needs, not just as a Band-Aid but as a long-range prescription to maximize access to work and to skill formation.

That Canadians recognize the significance of vocational training is demonstrated, says the Council, by past government expenditures in this area. In terms of dollars spent, public training programs have represented the single largest slice of the labour market policy pie.

Despite this, Council research suggests that past efforts have not really been effective. The critical shortages of skills in the Canadian labour market underline the failure of the system to meet all the demands of that market. Nor does it appear that existing programs have been very successful in improving the chances of Canadians experiencing long-term joblessness and other employment-related problems.

With this in mind, the Council has recommended action in the following areas:

- creation of local councils to identify training needs in their areas and to set up appropriate programs – these councils to include representatives from labour, business, education, and the federal and provincial governments.
- government support for training in industry to focus on high-level, long-duration programs for technical and trades occupations.
- increased government funding for nontraditional training for women.
- incorporation by provincial governments, within their apprenticeship facilities, of an agency to promote placement of aspiring apprentices within industry; other measures are recommended to streamline apprenticeship training.
- Canadian ratification and implementation of the International Labour Organization (ILO) convention on educational leave.

Concerning information, the Council observes that labour markets do not, of their own accord, always produce the most effective matching of people and jobs. Nor does labour market information. And since information is an essential element in the process of labour market adjustment, its shortcomings have contributed to the current imbalances.

The Council notes that, not only is more and better information required, but also it is essential to provide information specific to four categories of users: workers, employers, labour market analysts, and policymakers.

As a result, the Council has recommended the establishment of an independent research institute to develop and co-ordinate a labour force information network to meet the needs of these information users.

In addition, the Council suggests that the federal and provincial governments give high priority to the regular provision of information on employment, vacancies, workers, and wages – by occupation – supplemented by a continuing skill shortages survey.

Finally, the Council recommends a long-term survey of the behaviour of labour market participants, with availability of hiring and separations data on a regular and continuing basis.

Job creation programs by themselves, says the Council, should not be considered a panacea for all the ills of the Canadian labour market. For example, they should not replace, but rather complement, other policy measures that affect the process of labour market adjustment. Some problems may best be addressed by training, while others lend themselves more ideally to job creation. In some cases, a combination of the two may be the best way to help certain groups.

At the same time, the Council does view job creation programs as a legitimate component of overall public labour market policy, with scope for such programs in both the public and private sectors.

"Canadian labour markets have not always produced the quantity and quality of information considered ideal by participants in those markets."

Considering the short-term and long-range aspects of the question, the Council has recommended that the federal government institute a short-run direct employment creation program in the private sector, targeted to those groups bearing a disproportionate burden of unemployment. In the longer run and to complement this, the federal government should establish a system of direct cash wage subsidy to private employers for the purpose of job creation. These steps would also help ensure a mix of private and public sector action in the field of job creation.

Summing up, the Council emphasizes that "we view these policy options and recommendations as mutually supporting elements of a policy framework. That is, they are designed to address, simultaneously, certain aspects of both the demand and supply side of the labour market, and the information requirements to effectively reconcile the two."

NEW TECHN
NEW CHALL

How useful is research and development?

Research and development is seen by many as the most promising route to stimulating the future growth of Canada's economy.

The federal government recently confirmed its belief in this approach by announcing a policy that sees Canada's expenditures on R&D reach the target of 1.5 per cent by 1985. In comparison, the actual spending on research and development in Canada in 1977 represented 0.9 per cent of gross domestic product.

The cost of this policy will be about $1 billion per year, or about $40 yearly for every man, woman, and child in Canada.

In a study prepared for the Economic Council of Canada, economists Kristian S. Palda and Bohumir Pazderka examine the aims of this new policy and the means envisaged to achieve it.

The authors conclude that the analysis used to arrive at the 1.5 per cent target is deficient. Aside from questioning the comparisons drawn between R&D expenditures in Canada and elsewhere, they also question the assumption that increased R&D always and everywhere leads to significant improvements in economic growth.

The Science Council of Canada, they remind us, also concluded after studying the matter that contrary to current assumptions the astonishing industrial success of Japan was not founded on R&D. Its real basis was the adoption and diffusion of available technology.

The key to growth in firms and industries is innovation, say the authors.

"R&D is, of course, a necessary but not by any means a sufficient factor in bringing forth innovation. It is likely that those policies that enhance innovation also, ineluctably, raise the level of research and expenditures."

The authors consider the setting of a general target for R&D expenditures as an illogical and futile exercise.

They base their results on a systematic examination, one industry at a time, of what explains why R&D spending is high or low. They consider factors like the investment climate, the tax burden, the level of foreign ownership, and the scientific base. The approach the authors recommend to stimulate innovating, and thus research, in Canada is for the government to consider each industry individually.

Some industries, such as the manufacturing of electrical machinery, may benefit from government programs to promote R&D while others will be adversely affected by such a policy.

The use of a general target for R&D spending would be effective, the authors state, only if the target were built up industry by industry, taking into account the peculiarities that make each industry more or less responsive to such an approach.

The study also demonstrates that the grants or tax concessions to stimulate research and development are not equally effective in all industries.

Also, when a comparison is made between research and development in Canada and that in other industrialized countries, some important Canadian industries are found to be doing better than expected. Further, the common belief that a low level of research and development or its absence is directly related to foreign ownership does not hold up under scrutiny. Some foreign-owned enterprises in Canada have high levels of R&D, while others do not.

Government policy to stimulate R&D should concentrate on those industries where a true shortfall is identified.

About the current federal policy, the authors conclude: "We believe that we show conclusively that an aggregate, economy-wide target of research intensity is neither valid nor useful."

Approaches to an International Comparison of Canada's R&D Expenditures, by Kristian S. Palda and Bohumir Pazderka (EC22-107/1982E).

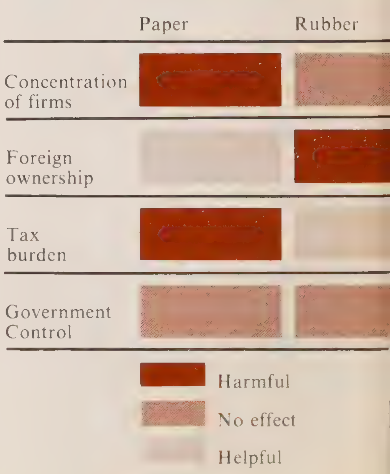
The papers summarized below loc
issues raised in the course o
Economic Council's ongoing rese
technological change, productivity,

National Film Board of Canada

New technology at work

How spending on research

Forces affecting R&D spending i



LOGY-
NGES

Taking risks can pay off

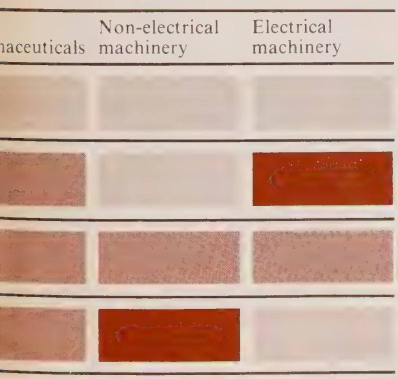
Canadian companies adventurous enough to invest in risky new technology are often rewarded for their daring by bigger profits. By the same token, firms that bet only on a sure thing have to be content with smaller returns.

So concludes a new Economic Council paper, in which author K. E. McMullen develops an economic model to assess the time lag between the first world use of a new product or process technology and the date of its first use by firms in Canada.

As the basis for her analysis, the Council economist had access to new data from a survey conducted by the Economic Council as part of its ongoing research into technological change.

velopment can be influenced

industries



A large sample of manufacturing firms was asked to report on innovations which contributed most to their profitability during the period from 1960 to 1979.

McMullen's interest lay in finding out what motivated these firms to adopt new technology first used elsewhere, and what explained the length of time they waited before taking the plunge. This matters a lot since, as McMullen points out, 99 per cent of Canadian technology comes from abroad. Using the sample data and theories advanced by earlier research into the spreading of innovations, the author tests a number of hypotheses, including how big a difference riskiness makes and, especially significant for Canada, how much it matters if the firm is a multinational branch plant.

A number of considerations affect how quickly a firm will adopt new ideas, McMullen says. First, it must be aware the innovation has been developed. Acquiring this knowledge can be an expensive pursuit, so companies with reliable sources of information may have an advantage – the more technologically oriented firms, especially those doing their own research and development, for example, or large diversified corporations such as multinationals with extensive, centralized research facilities to monitor technological developments in a number of fields and countries.

But firms may also bide their time when they're not certain of a good return on their investment. Radically new, relatively untested ideas appear a less sure bet than products or processes that have proved themselves on the market. So, McMullen theorizes, "as perceived risk increases, lag lengths increase." For much the same reason, firms tend to be keener to acquire improvements to familiar products and processes than to gamble on innovations representing major departures from current practice.

The cost of brand-new technology could be an obstacle to its adoption as well. Companies are understandably reluctant to tie up a good deal of capital in a single, risky venture – and so may hesitate to take on innovations that are expensive relative to firm sales. And they may be more receptive to new technology that is already returning a good profit elsewhere; so, "as perceived rate of return increases, the length of time from first world use of an innovation to adoption by firms should decrease," McMullen suggests.

It follows, too, she says, that government subsidies, by reducing adoption costs, may spur firms on to invest more rapidly in new technology.

Where companies are getting their new technology could influence the speed of adoption as well, McMullen reasons. A Canadian subsidiary of a large multinational may have an advantage over domestically controlled competitors in this respect. The parent companies are in a much better position to know about new technological developments and to handle research and development expenses. And they can pass on the fruits of their learning to other firms within the corporation. "Hence," the author argues, "technology acquired through intra-corporate channels should also show shorter lag lengths . . ."

Systematic testing of these assumptions with the real world data confirms their accuracy, although McMullen cautions that "lag lengths . . . are estimated by the respondent firms . . . (and) as a result, they are subject to inaccuracy introduced by human error in recall, and in awareness of the true first date of innovation commercialization elsewhere in the world."

That said, several interesting conclusions emerge from her analysis. First, although firms often prefer to take a "wait and see" approach to new ideas, risk takers gambling successfully on technology new to the market pay off their investment more rapidly.

Secondly, there may be a role for government support to reduce the risk of innovation, although McMullen stresses the need for more analysis here. "The question of the level of risk faced by firms and the level faced by society and the case for intervention is a theoretical argument . . . beyond the scope of this paper," she says.

The paper ends on a rather controversial note. Subsidiaries of multinationals appear to have an edge in so far as innovating is concerned, implying that "policies toward multinationals in Canada could have an impact on the length of adoption lags at a given level of risk and rate of return." Contrary to current opinion held in some quarters, the author concludes, her research suggests that "foreign-controlled firms . . . play a positive role in the process of technological change in Canadian industry . . ."

"A Model of Lag Lengths for Innovation Adoption by Canadian Firms," by K. E. McMullen. Discussion Paper No. 216.

Reforming Regulation

Public gains from airline deregulation

Judging from U.S. experience, Canadians would be paying dramatically lower air fares if airline regulation were cut to a minimum.

Successful airlines would have much lower operating costs under deregulation, too, while their profits would remain at today's levels, says William Jordan of York University, in a paper on the performance of regulated Canadian airlines between 1975 and 1978, written for the Economic Council's study on government regulation of the economy.

Virtually all commercial air activities in Canada, from the largest airline to the smallest flying club, have been tightly regulated by federal commissions since 1938, Jordan points out. By virtue of this regulatory monopoly, new airlines have been prevented from starting up, and fares have had to conform to commission-approved guidelines. As it stands, airlines compete only in the quality of the in-flight service they offer.

The impact these regulations have on air fares, operating costs, productivity, and profits can only be tested, Jordan argues, by looking at how airlines have done under a less regulated system – where carriers complying with federal safety requirements can enter the industry, fly their choice of routes, and set their own fares.

Ultimately, the recent U.S. move to deregulate its airline industry will provide a good basis for this comparison, but not for some years to come. Meanwhile, though, the existence until recently of more than one system of regulation for airlines in the United States provides an invaluable source of information for this purpose, Jordan says.

Until 1979, most U.S. airlines came under a federal regulatory system similar to Canada's. But in the large American states of California, Florida, and Texas, a more competitive set-up was in play. There, state airlines flying to points within their own borders came under state, rather than federal, jurisdiction, and hence under much looser regulatory controls. Intrastate carriers, using large aircraft similar to those of the federally regulated airlines, and flying the same routes, were permitted to cut fares in order to compete successfully.

This situation afforded Jordan an excellent opportunity to carry out a comparison, not only between deregulated and regulated U.S. airlines, but also between federally regulated carriers on both sides of the border.

His analysis shows that, throughout the 1975 to 1978 period, the performance of federally regulated airlines, whether U.S. or Canadian, didn't differ very much. In contrast, the intrastate carriers did a truly outstanding job, offering air fares at much lower rates than their federally regulated competitors. The latter, Jordan says, charged fares as much as 180 per cent higher than the intrastate airlines. Profits, though, ran at about the same levels for all the airlines. So operating costs must have been substantially higher, too, for federally regulated airlines.

Finding out why loosely regulated carriers can operate more cheaply than tightly regulated ones should cast some light on the economic effects of a regulatory monopoly, Jordan says.

Labour and fuel costs make up the largest share of airline operating expenses, the author notes. And on

both counts he finds that the intrastate carriers strikingly outperformed Canadian and American federally regulated airlines. Their labour costs were much lower, the author says, partly because they paid smaller salaries, but primarily because their employees were between 67 and 118 per cent more productive than those working for federally regulated airlines.

The same proved true for fuel expenses. While fuel prices were about the same for all U.S. airlines, the intrastate carriers had lower fuel expenses overall, through better fuel utilization. Canadian airlines also scored high marks in this category, but were required to pay significantly higher fuel prices – the result of higher taxes and fuel-related airport fees charged by federal and provincial governments – with the net result that fuel expenses were about the same for federally regulated airlines in both countries.

The unavoidable conclusion, Jordan says, is that the intrastate carriers made better use of labour, fuel, and aircraft than did their competitors. Canadian airline executives, he observes, have attempted to explain performance differences of this nature in terms of geography and climate, arguing that Canadian carriers operate in more difficult weather conditions and serve sparsely populated areas, so their productivity inevitably suffers. But Jordan did not find any evidence to support this contention. Federally regulated airlines in Canada and the U.S. put in about the same performance on all counts, despite differences in weather and traffic patterns, he says.

In addition, he debunks the myth that larger airlines can operate more cheaply and efficiently than smaller ones. In his view, the intrastate experience clearly demonstrates that very small airlines operating four or five planes of a suitable type can compete successfully with the giants.

A better explanation for the success of the intrastate carriers probably lies in their tendency to greater specialization, the author contends. Unlike federally regulated airlines, intrastate carriers seldom operated more than two types of plane at one time, served relatively few cities and routes, offered only economy service, and kept their schedules and fare structures uncomplicated. Their declared intent to "keep it sweet and simple" (the motto of one carrier) extended to every aspect of airline management, resulting in greater productivity in many areas. For example, Jordan says, keeping fares and schedules simple and straightforward has more than halved the amount of time that agents need to spend on the phone with prospective customers.

There's a clear message here for Canadian airlines, Jordan concludes. If the intrastate example is anything to go by, deregulation of the Canadian industry should reduce air fares by as much as 50 per cent, simplify fare structures, substantially reduce the operating costs of successful airlines, and boost employee productivity – at no greater cost than some reduction in services.

"Canadian Airline Performance Under Regulation," by William A. Jordan. Working Paper No. 29.

Protecting wildlife

National Film Board of Canada

Vanishing species?

Hunters, beware! If steps aren't taken soon to enforce and strengthen present-day wildlife regulations, there may be no game left in the forests to shoot.

And people who enjoy watching animals roam freely through Canada's parks may be deprived of that pleasure, too, before very long.

J. E. Peters of Cariboo College, in a paper written for the Economic Council's study on government regulation of the economy, finds serious problems in the way that regulations have managed wildlife concerns to date. Certain species are dying out, and the area set aside for wildlife is shrinking rapidly due to population pressures, old-fashioned attitudes, and encroaching new technology. And current regulations, as enacted by wildlife agencies, aren't keeping pace with these new developments.

The roots of the present problems reach far back into the past, Peters claims. Over centuries, wildlife – particularly game – has been universally regarded as common property. Most Canadians look on hunting as a personal recreational pastime, unrelated to the ordinary market forces of supply, demand, and price. But "what has no price," he argues, "is often considered to have no scarcity value and hence is likely to be excessively exploited."

So it's the job of provincial and federal regulations to see to it that existing species aren't wiped out in the process. As well, regulations have to protect wildlife from the perils of modern-day society – the snowmobile, for instance,

or pollution, such as acid rain.

More and stricter regulations are imperative, Peters says, but instead the reverse appears to be happening. Current rules, while numerous, are often poorly enforced. Poaching is commonplace, for example. And judges tend to be unusually lenient in sentencing offenders, when a stiff fine would act as a deterrent. As well, even though game is dwindling in some areas, the wildlife agencies have been hesitant to reduce the hunters' entitlement accordingly.

Before measures can be taken to protect wildlife adequately, the problem areas have to be identified. In Peters' view, two key concerns merit particular attention: "the absence of an acceptable economic evaluation of wildlife, and the lack of a land use policy based on ecological principles."

To begin with, wildlife habitat must be preserved if species are to survive. Meeting this goal will require a change in land management policies, Peters claims. Ideally, ecological concerns would be the guiding principle behind any future land use decisions but, for practical purposes, more immediate methods to protect the environment have to be found. Government purchases of land for parks or wildlife preserves are an expensive solution to the problem; but a cheaper and yet effective approach might be to zone existing agricultural and forest land so that it remains in a condition compatible with effective wildlife management. Provinces could also convert some of their crown land into multiple-use areas, requiring users to satisfy specific requirements laid down by government wildlife agencies.

Secondly, an economic price tag should be put on wildlife. "Very few statements are as impressive in our society as proof of a high economic value. It is in this area that existing wildlife rules and management could be changed to allow for the generation and expression of information on the economic value of wildlife." Unfortunately, he adds, 44 federal-provincial wildlife conferences have failed to come to grips with that important question.

Licence fees, for example, could be an effective weapon in protecting species. The present system of low nominal charges has resulted in "increasing herds of hunters" chasing declining herds of game, with little success. And the agencies get scant resources for management and protection purposes.

So a hefty raise in fees would have several benefits, in Peters' view. The number of hunters would drop, the season could be open longer, and the agencies would have larger incomes to deal with pressing concerns.

Alternatively, a change in agency goals and activities could open up new sources of income. In the past, an agency's first concern has been to manage game for the benefit of hunters. But if their prime objective became protecting and restoring wildlife for present and future generations, Peters argues, then an excellent case could be made for giving them greater revenues out of general taxes.

"Wildlife Management: Adequacy of and Problems in Regulation," by J. E. Peters. Working Paper No. 27.

Canada/U.S. conference raises key issues

Canadian and American experts on the reform of regulation swapped views at a major two-day conference held recently in Toronto.

Sponsored by the Economic Council of Canada, The Institute for Research on Public Policy, and The American Enterprise Institute for Public Policy Research, the conference, on "The Impact of Regulatory Reform in Canada and the United States," attracted over 180 delegates from government, universities, and the private sector across North America.

During the first day of the event, distinguished speakers discussed changes in broad areas of regulation, and their impact upon the two countries. Topics included the reform of economic regulation in telecommunications and transportation, regulation of the environment and the workplace, and the role of antitrust or competition policy following deregulation.

In a lunchtime address, William Niskanen, a member of President Reagan's Council of Economic Advisers, talked about the pressing need for thoroughgoing regulatory reform in his country. The Reagan administration, he said, has not yet succeeded in its declared intention of providing Americans with "regulatory relief." Niskanen called for more stringent measures to achieve deregulation, including the development of "regulatory courts" where plaintiffs could bring class action suits against existing regulations.

In a press conference following his speech, Niskanen referred to current economic conditions in the United States, saying that interest rates should ease there this year, and the economy move into a "fairly robust" recovery.

Consumer advocate Ralph Nader, of the Center for Study of Responsive Law, in Washington, treated delegates to a hard hitting after-dinner discussion on the consumer interest in deregulation. Reformers of regulation need to pay a good deal more attention to the best interests of the public at large, he declared, rather than to the relative merits of abstract theories and con-

cepts. In his opinion, the helpless victim of "the corporate bias which threads its way through American life" is only too frequently the consumer, whose life, health and safety are often at stake. Not only must consumers themselves work to change this situation by organizing into informed and active groups, he said, but also regulators must begin to work alongside those most affected by current measures.

The second day of the conference was devoted to concurrent sessions on the impact of regulatory changes, or proposals for reform, in specific industries and sectors: the environment, the workplace, airlines, telecommunications, surface transportation, and energy.

Max Ward, president of Wardair International Ltd. of Edmonton, took issue with Air Canada's executive vice-president, Pierre Jeanniot, during the session on the airline industry. Ward disagreed with Jeanniot's stand in favour of airline regulation, arguing that a Canadian airline's financial results are determined by the regulatory protection under which it operates, not on its ingenuity, or on its success or failure in serving markets. If there is instability in the Canadian airline industry, it is because of regulation, he said.

A highlight of the afternoon's proceedings featured a debate among panelists participating in the session on

Energy session provokes debate

energy, which was chaired by the deputy minister of Energy, Mines and Resources, Marshall Cohen. Yale University economics professor, Paul MacAvoy – whose indictment of Canada's National Energy Program was recently published in the New York Times – argued that restrictive government policies, such as oil and gas price controls and high taxes, were to blame for the recent drop in oil and gas production in this country, and cautioned Canadians to "wake up before it's dark." He was challenged on a number of his assumptions by Economic Council chairman David Slater, vice-president of TransCanada Pipelines Ltd., Richard Walker, and managing director of the Independent Petroleum Association of Canada, John Porter.

Donald Johnston, president of the

Ralph Nader speaks out

Treasury Board of Canada spoke to delegates over lunch on "The Challenge of Regulatory Change for the North American Economy." He pointed to one particular area where Canadian government regulations have an adverse effect on the working of the marketplace – the system of marketing boards, designed to give farmers a better return for their products. Quoting at length from an Economic Council report on this area, Johnston concluded: "To me, this area of regulation is perhaps the least defensible of all the measures in the regulatory catalogue . . . That we have moved so far along this road bears testimony to the fact that our governments understandably listen much more to groups – particularly those bearing blocs of votes – than to the average Canadian who pays the bill."

Discussing airlines

Reforming farm policy

The business of growing, harvesting, processing, packaging, transporting, selling, and serving food in Canada employs 9 per cent of our workers and represents one-sixth of total economic activity in Canada.

Furthermore, the importance of farm exports for Canadian trade and of food prices in the Consumer Price Index (CPI) means that the performance of the food industry has a direct impact on the balance of our international payments and on price stability in the domestic economy.

It is with these figures in mind that economists James D. Forbes, David R. Hughes, and T. K. Warley undertook an evaluation of the current health and future prospects of agriculture in Canada.

Their study, published jointly by the Economic Council and The Institute for Research on Public Policy, concludes that, though agriculture in Canada is "performing quite well" overall, there is a need to reform certain aspects of farm policy if the growth and efficiency of the agricultural sector are to be maintained in the future.

National Film Board of Canada

Governments in Canada at present commit over $1 billion a year to support and regulate agriculture. Canadian consumers spent $25 billion on food in 1979. This was 17.3 per cent of personal disposable income.

Some of the marketing boards that are the object of regulatory expenditures and the recipients of consumer dollars abuse their regulatory power, the authors conclude.

"By any standards, the income transfers being made every year to producers of eggs and broiler chickens – and probably turkeys – are unconscionable."

The per capita transfer to producers of fluid and industrial milk is smaller but still too large.

"Furthermore, these transfers are being made by cost-ineffective and socially regressive instruments, with no time scale to their duration."

The concern expressed by the authors is not only for the prices that consumers pay for these products but also for the long-term survival of these agricultural sectors.

Further prospects will not be rosy for producers, as a result of present marketing board practices. "For, while the industries are flushed with profit in this generation, they will be burdened with costs in the next."

The authors oppose the creation of additional marketing boards, specifically for red meats, until supply management systems have been reformed in such a way that they no longer pose a threat to farmers and to the national economy.

The authors recognize the need for support and stabilization policies, particularly in the grains industry, which is important to our balance of trade, although it is susceptible to the instabilities of the world market.

Government intervention in this area could include : expanding production capacity; encouraging the product mix required by markets; upgrading the grain handling system; integrating grain transportation into a broader commodity transportation policy; devising price and income stabilization arrangements that will offset short-term market variations and encourage

National Film Board of Canada

steady grain production and the orderly development of livestock and meat production; and avoiding distortions in interregional comparative advantages.

The authors support government intervention and regulation to enhance stability in the food system.

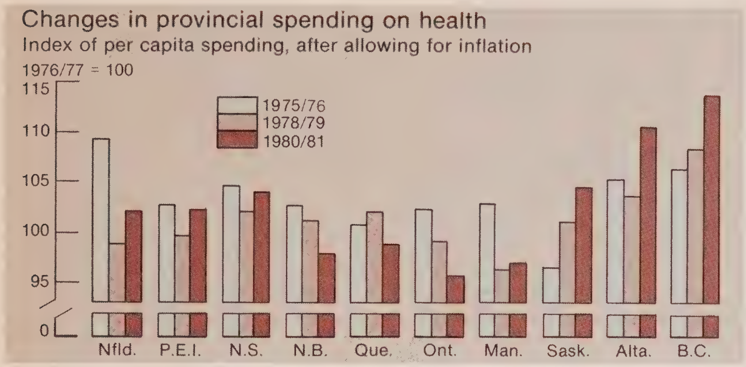
"A major task facing Canadian policy would seem to be to devise a set of instruments that will stabilize key economic variables in agriculture while resisting the temptation to move into regulated systems that isolate the Canadian food system from competitive market conditions."

The authors view the current drift from competitive systems with foreboding. "For, on the evidence provided by this enquiry, we find it impossible to believe that such a trend is in the best interest of the nation or, ultimately, of this and future generations of Canadian farmers."

This study was prepared as part of the Council's research project on government regulation. The final report of that study, *Reforming Regulation*, was published in 1981.

Economic Intervention and Regulation in Canadian Agriculture, by J. D. Forbes, R. D. Hughes and T. K. Warley (ECC2-102/1982E; $7.95 in Canada, $9.55 elsewhere).

No impact from funding changes



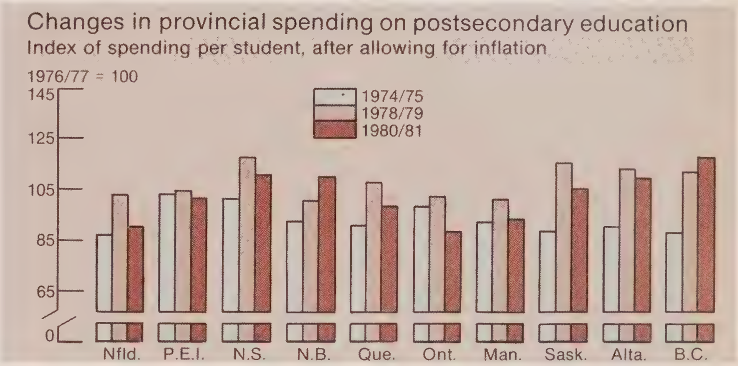
The notion that provinces collectively have reduced their spending on health care and postsecondary education in response to 1977 changes in federal funding methods doesn't hold up under close analysis, claims a recent Economic Council paper.

As background for the Economic Council's report on fiscal arrangements between Ottawa and the provinces, published earlier this year, economist Constantine Kapsalis looks at past and present funding of social programs in the fields of health care and postsecondary education.

Although these two areas fall under provincial jurisdiction, the federal government plays a major role in financing them. Prior to 1977, the provincial and federal governments shared the operating costs of these programs, on what amounted to a fifty-fifty basis.

But when the Fiscal Arrangements Act was renegotiated in 1977, the system of federal-provincial cost-sharing was replaced with block funding under the term "Established Programs Financing" (EPF). Under these arrangements, the federal government provides each province with a "block fund" in the form of a federal income tax reduction and cash payments, which it can then allocate to the various programs.

Recently, though, public interest groups have expressed fears that this approach has led provinces to reduce the level and quality of their services. Once the federal government agreed to pay one dollar regardless of whether the provinces spent two dollars or one dollar, the argument goes, the provinces were bound to pull back on their own contribution, and the programs would suffer.



There is some concern, too, that the increased financial burden on hospitals and postsecondary institutions may force them to impose surcharge fees for hospital care and increase tuition fees.

But Kapsalis's analysis shows that in fact the EPF funding method did not generally have such an effect. Some provincial governments did restrain the growth of spending on social programs in recent years. But current provincial spending restraint cannot be attributed to the introduction of EPF, he says, first because there is no indication of significant overall funding cutbacks by provinces since the introduction of EPF; and second, because it is questionable whether the change from cost sharing to block funding made provinces less inclined to spend on social programs.

The accompanying charts bear out Kapsalis's first point. They show that, at the national level, provinces have reduced their spending on social programs only slightly – if at all – since EPF began, although the picture varies somewhat from province to province.

The author argues his second point on two grounds. First, he says, as far as hospital and medical insurance are concerned, under the cost-sharing agreement the provinces did not in fact receive 50 cents from the federal government for every dollar they spent. Cost-sharing for medical expenses, for example, was based on 50 per cent of the *national* per capita cost. So no matter how much or how little the provinces spent in this area, their allotment under the cost-sharing program was barely affected by their own behaviour, even in the largest provinces.

Further, he says, even when the provinces did work from "50 cent dollars," as was the case for postsecondary education, other factors diluted the effect. For instance, Kapsalis points out that in 1972 the federal government imposed a 15 per cent ceiling on the annual rate of the increase in grants for postsecondary education. Because provincial spending was already curtailed in this way, the introduction of block funding probably didn't have much additional impact.

Admittedly, Kapsalis concludes, provinces now are running into difficulties with some of their programs, notably health insurance plans and postsecondary education. These problems may well justify a change in the nature and extent of federal involvement, he says – such as tying stricter health program conditions to federal grants. But there is no need to change the funding system.

"Block Funding and Provincial Spending on Social Programs," by Constantine Kapsalis. Discussion Paper No. 210.

Council launches western project

The Economic Council has begun a major study of the economies of the four western provinces.

The mandate given the Council by Parliament specifically enjoins it to include regional development among its concerns. The study of the Newfoundland economy, published in 1980, is the latest in an extensive body of work the Council has undertaken in the past to increase understanding of the economies of Canada's regions.

Current plans for the new western study call for research in ten areas – transportation, the effects on incomes of changing energy prices, forestry, agriculture, mining, export marketing, migration to the West, service sector developments, interactions of western energy developments with the rest of the Canadian economy, and the meaning of balanced regional development as far as the West is concerned.

Neil Swan, an economist with the Council, developed the research project and has been appointed its director. *Au Courant* interviewed him recently to find out more about the western study.

Au Courant: *The obvious question, at first, is to ask why the Economic Council of Canada is undertaking a study of western Canada?*

Swan: It is hard to sum it up in a few sentences but basically the Economic Council is uniquely placed to examine objectively some of the crucial questions that will affect the West, and incidentally the rest of Canada, over the next decades. A key question might be, is long-term, sustainable growth a realizable objective for the West?

Another way of looking at it is that the Canadian economy as a whole, and the West in particular, has grown through a series of resource booms. We had the fur trade, the fishery, building up of the forest industries, the wheat boom, oil, and gas. Europe, in contrast, developed through the same period from agriculture to manufacturing, and then on to sophisticated manufacturing and services. That was not the pattern in Canada at all.

Now, the question is, have we reached the end of the road in the process of Canadian development, moving from one kind of natural resource to another until they are all exploited and the economy becomes stagnant?

Are these recent fillips – the boom in oil and gas, the growing demand for coal and wheat – the last in the series and do we ring down the curtain afterward?

I think that is the sort of question that the Council is able to raise and try to answer. There are many others, but this is a key one.

We may find that this conclusion is wrong and the truth is that both Canada in general and the West in particular are now large enough that, like the countries of western Europe, their growth can be self-sustaining, irrespective of resource endowment. If so, then we may conclude that balanced regional development within Canada is attainable.

Au Courant: *Is there a distortion inherent in the Easterner's view of the West?*

Swan: There is a risk of seeing the West as completely homogeneous, which it certainly is not. On the other hand, the western provinces do share some characteristics, such as dependence on resources and transportation.

Au Courant: *In working out what research to do, what sort of consultation was carried out?*

Swan: We went out West with our original proposal and discussed it with top officials in the provincial governments of British Columbia, Alberta, Saskatchewan, and Manitoba. We listened to their reactions and adjusted our proposals accordingly. Then we also consulted people in universities in the West.

Au Courant: *Will the Council have a permanent presence in the West throughout the course of the research project?*

Swan: We have opened an office at the University of Alberta, run by a senior economist, Michael Percy, who will also be personally responsible for the important work we do on forestry.

We will also look at the general importance of transportation and transportation rates as an issue. Is it in fact as big and important a matter for the West as it is often cracked up to be? In other words, what effect would changing the rates have on western GNP?

Au Courant: *What are some of the individual research areas that will comprise the study?*

Swan: This is in no logical order, but let's start with forestry. As I see the issue there, the industry has been growing in British Columbia because there has been enough wood to make that growth possible. But we may soon be coming up against what they call maximum sustainable yield. A lot of people believe that the prosperity of British Columbia is tied to the forestry and, as long as that industry was growing like mad, then British Columbia followed suit. If it now levels off, that will likely have implications for British Columbia's future growth. Now what we do about that is a major issue.

What is going to happen to the forestry sector, and what can we do about

Log loading in British Columbia

National Film Board of Canada

Oil well in the Alberta foothills

it? The answer will affect the whole economy of British Columbia and, to a lesser extent, Alberta. What is important to note here is that this topic does not appear to have been researched. What has been looked at is the forestry itself, forest management, sustainable yield, etc. But no work has been done on the effect on the economy as a whole of a slowdown in the growth of the forest sector.

Au Courant: *What about oil and gas resources?*

Swan: We are doing some work on the income effects of the oil boom. And much more will be done in the course of the Council's new energy study. The idea is to ask questions such as, What is the size of this boom in terms of the effect on incomes in Alberta? How are the revenues distributed? And how big is the current boom in comparison to previous booms such as that in wheat? Attention will be paid particularly to the distribution of income gains and losses, if any, among several groups, including original western residents, people arriving from the rest of Canada in response to the boom, people arriving in the West from outside, non-Westerners in Canada, and nonresidents of Canada.

Au Courant: *Transportation has been an important issue in the West. What part will it have in your study?*

Swan: In principle, we will examine all modes of transportation but more specifically rail, trucking, and seaway transport. This area has been studied in some detail, but we hope to shed light on several important issues. For example, there is the question of the capacity bottlenecks, in the shipment of items such as grain, because those will be with us for a long time, despite what happens to related issues such as the Crow rate.

Au Courant: *The boom has attracted a great many people to the West. How does that enter into your study?*

Swan: What we will be examining is the phenomenon whereby the oil boom is attracting a tremendous number of people to the West but, once it is over, these people remain there. How many will eventually go back home? This raises an issue that a lot of people are worried about. If you lower provincial taxes out there and provide government services out of the oil revenues, then in effect you make it more attractive to live in the West than is really warranted by the underlying economic conditions.

Au Courant: *Does a boom like this have an effect on the rest of Canada?*

Swan: Yes, and as a crude example, we can consider a case where the West has a lot of oil to export to the East and does export it. The East then must export something in return. You have to balance your trade within nations just as you do between nations. Now, just what is it that the East would have to export to the West? It can only be manufactured goods or financial services. That means that you have less manufacturing in the West. So an oil boom implies that the West could become more specialized in energy production and their manufacturing could suffer – exactly the opposite of what Alberta, in particular, would like to see happen.

So you can ask in this kind of study, Suppose the Alberta government tries to industrialize by using the Heritage Fund, for instance, what does that do to this balancing process, and what effects will it have on Alberta and on the rest of Canada?

Au Courant: *Will you look in greater detail at what's going to happen if one day the West can no longer rely on resources?*

Swan: This question particularly interests me. Now about two-thirds of any economy is services. You could argue that, as an economy gets larger and its population grows, parts of its service sector get relatively more efficient. It is a question of scale. It is even conceivable that, when a place gets big enough, there is an improvement in efficiency that really drives the economy along, and natural resources can become less crucial.

You can begin to see this in a place like Ontario, which was once dependent on natural resources but no longer relies on that source as the engine to drive its economy. The same would be true in West Germany or Japan. There comes a time when an economy can become self-sustaining and prosperous irrespective of its endowment in natural resources.

Au Courant: *Is the West anywhere near that size?*

Swan: That brings us to the big issue of the whole project. The Albertans sometimes express it by saying, "Is there life after resources?" In British Columbia they worry about what will happen when the inevitable slowdown in forestry growth takes place. Manitoba has long felt this, because the wheat boom came, reached a crest, and levelled off.

Au Courant: *Is the future for the West as the resources wind down the same as it was for the Maritimes?*

Swan: Or is it like Ontario, a take-off into self-sustaining growth? The future of the West is tied up with the question of how vital natural resources are in the long run.

Such a question is far removed from the practical concerns of western governments, but this "vague idea" possibly contains the answer to the evolution of the western economy over the next 20 years. Whatever the answer is, it will be interesting.

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Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has provided Canadians with an ongoing analysis of the economy, looking at economic policies and the effect of possible alternatives on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a significant role in public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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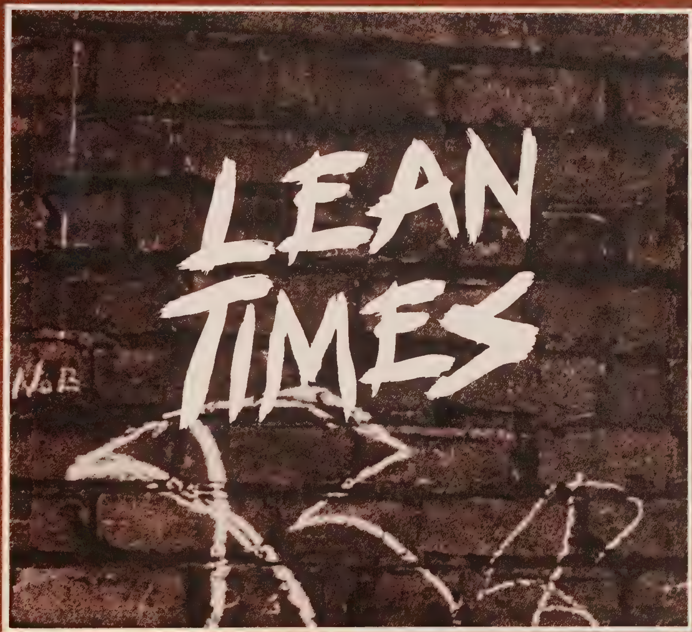
au courant

Economic Council of Canada
Volume 3, No. 2 1982

Outlook for the economy



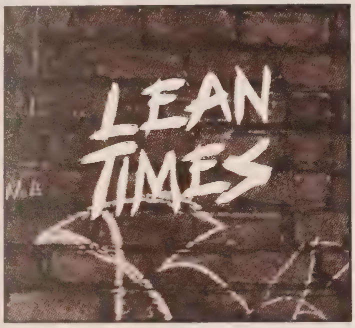
Government project backfires

New energy study underway

Topical look at job-hunting

PUBLICATIONS

Nineteenth Annual Review



Lean Times: Policies and Constraints (EC21-1/1982E; $5.00 in Canada, $6.00 elsewhere).

In this year's review of the economy, the Council takes a look at Canada's short-term economic prospects in the context of current lean times, examines their implications over the medium-term, and makes policy recommendations. The 1982 review is now available in bookstores across the country, and may be ordered from the Canadian Government Publishing Centre (see below).

Annual Report

This year's annual report includes a message from chairman David Slater, and details on Council research projects currently under way. For a free copy, write to the Communications Division (address below).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research study has been published since the last issue of *Au Courant*.

Equalization in a Federal State: An Economic Analysis *by Robin Boadway and Frank Flatters* (EC22-105/1982E; $6.95 in Canada, $8.35 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 217 "An Analysis of the Federal Make-or-Buy Policy," *by A. B. Supapol and D. G. McFetridge*.

No. 218 "The Evolution of Industrial Policies in Canada: An Historical Survey," *by M. Bliss*.

Reprints

The following report and studies have been reprinted, and can be ordered according to information below:

Living Together: A Study of Regional Disparities (EC22-54/1977E; $7.50 in Canada, $9.00 elsewhere).

Meeting Skill Requirements: Report of the Human Resources Survey, *by Gordon Betcherman* (EC22-100/1982E; $6.95 in Canada, $8.35 elsewhere).

The Choice of Governing Instrument, *M. J. Trebilcock, D. G. Hartle, R. S. Prichard and D. N. Dewees* (EC22-101/1982E; $8.95 in Canada, $10.75 elsewhere).

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request. These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A OS9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion papers, *Au Courant*, and the Annual Report are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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au courant

Volume 3, No. 2 1982

Nineteenth Annual Review

Highlights from the Council's review of the Canadian economy for 1982:

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1867 - 1982

Canada's industrial strategy – still incoherent after all these years

The notion that Canada had, has, or ever will have a single, coherent industrial policy is fantasy pure and simple, according to a University of Toronto historian.

"In the realm of industrial policy, as in so many other areas of our national life, we have to learn to live with diversity, *ad hoc*ery, and a certain amount of disorder," says Michael Bliss, in a paper written for the Economic Council's research into technological change, productivity, and growth.

The author surveys the range of industrial policies pursued by Canadian governments since Confederation, and describes their evolution through to the present. From a historical perspective, he says, the most arresting characteristic of Canadian industrial policies is their sheer variety. Equally striking, in his view, is the unlikelihood "that a single Canadian government has taken stock of the full range of its industrial policies, let alone analysed their origin, evolution over time, degree of coherence, or effectiveness."

In the 19th century, the main industrial policy instruments were the tariff and state control of resources, the former used to develop secondary industries, and the latter to develop resource industries and the railways. Government decision making in these areas, though, was not consciously based on a coherent strategy aimed at linking central Canadian manufacturing with western resource production via an intercontinental railway system, despite historians' arguments to the contrary. In reality, the so-called National Policy of the day referred only to the tariff. "The imputation of a clear, planned and effective relationship between the National Policy of protective tariffs and Canada's other national policies is actually an intellectual construct, imposed after the fact by economists looking backward through glasses tinted by a preference for rationality and clarity," Bliss maintains.

And in retrospect, these policies may not have been successful, he adds. Later analysts have claimed, for example, that the tariff reduced per capita incomes, that the Canadian Pacific Railway was too costly and too early, and that free homesteading grants probably encouraged agricultural settlement before it was socially profitable.

While the years 1867 to 1914 formed the classic period of Canadian development, the decades of the 1920s and 1930s were a time of gathering uncertainty, followed by severe economic crisis. In this climate, traditional industrial policies were thrown into question: some had to be drastically altered; and new policies were developed to meet new problems. For example, growing interest in monetary policy as an instrument to help bring about economic stability ultimately led to the founding of the Bank of Canada; the enormous unemployment of the 1930s fostered a wide variety of policies aimed at job creation; and the Crown corporation and, temporarily, cartelization, were added to the industrial toolkit.

For a brief period following World War II, industrial policies at the federal level actually showed signs of coherence and conscious planning, for two particular reasons: government decision makers, guided by economic super-minister C. D. Howe, agreed that Canada would benefit from international economic co-operation; and a relative eclipse of the provinces as a result of depression and war left Ottawa almost alone on the national policy making stage. Whether this halcyon consensus period made a positive impact on the course of industrial development is yet to be determined, Bliss remarks. Mistakes were undoubtedly made: enthusiastic support for sophisticated aeronautical and other military technology, for example, led to expensive and unproductive commitments, such as the AVRO Arrow project.

A major recession at the end of the 1950s shattered earlier optimism, and brought in its train "a blooming, buzzing confusion" of industrial policy making. High unemployment rates, growing awareness of regional disparities, fears that manufacturing was on the decline, and exploding world oil prices in the early 1970s were some of the concerns that brought about a considerably greater degree of government intervention in the form of a bewildering variety of policy initiatives.

In sum, Bliss says, little rhyme or reason has governed industrial policy development in this country. A moot point, indeed, is whether "Canadian prosperity is a legacy of visionary, effective government economic management, or . . . a testimonial to the triumph of Canadian resources and enterprise over political mismanagement. . . Perhaps the net effect of Canadian industrial policies," he concludes, "is to have made the Canadian people poorer than they would have been had they been far less governed."

He calls for future industrial policy making guidelines with more conscious consideration of the aims, nature, and likely effects of any given action by governments. "We may never be able to walk in a straight line towards our goal, but it will surely help if we stop walking in the dark."

"The Evolution of Industrial Policies in Canada: An Historical Survey," by Michael Bliss. Discussion Paper No. 218.

Government research policy backfires

An effort to award government research and development contracts to private industry has backfired, according to a recent Economic Council paper.

Carleton University economists A. B. Supapol and D. G. McFetridge, in research conducted for the Council's study on technological change, productivity, and growth, claim a federal government decision to contract out its research and development (R&D) work to private industry has not had the anticipated result. Ironically, instead, it "has not increased contracting-out in areas where there are potential benefits, and has increased it in areas where there are not," they say.

Increasing concern that Canada was not benefiting enough from its R&D effort, primarily because too much R&D was being conducted by government, and too little by industry, has led to the establishment of several new programs over recent years. Each sought to create an environment more conducive to industrial R&D. Private industry, the argument ran, was better geared and motivated to produce "spin-offs" from R&D projects, in the form of new technological advances, new products, or new industries. So, putting the research conducted by federal government departments into the hands of industrial companies should lead to the development of many more successful innovations.

One such program, the "make-or-buy" policy, was set in motion by Cabinet in 1972. Its directive required all new departmentally funded research with definite goals to be contracted out to industrial firms.

The authors' analysis, though, finds flaws in this blanket approach. "One of our principal conclusions," they say, "is that a universal contracting-out policy such as the make-or-buy directive, is not necessarily conducive to more effective use of our research resources." They make the case that farming out R&D projects is worthwhile only under certain conditions: when the objectives are clear, and performance easily measured; when the technology involved is relatively well known; and when the research does not involve a large investment in specialized facilities. Generally speaking, industrial, applied R&D falls into this category.

When they test the policy's success rate to date, by a close look at the R&D operations of seven federal departments – National Health and Welfare, Environment, Agriculture, Communications, Energy, Mines and Resources, Defence, and Transportation – the authors find it has rarely been on target.

To begin with, the departments doing R&D with the greatest commercial potential simply did not comply with the directive, sometimes wisely so. One such example, Communications, is a department where theoretically the new policy should work well: it ranks first in the number of R&D contracts awarded to manufacturing firms, and was heavily involved in industrial contracting-out prior to the new directive. Yet, as the chart shows, it did not step up this activity with the policy's appearance. The implication here, say the authors, is that Communications had been making the most of the contracting-out procedure in any case, and had reached the saturation point by 1972, rendering the make-or-buy directive redundant.

In contrast, another noncomplying department, Energy, Mines and Resources, did little contracting-out to industry either prior to or following the new directive, even though it was engaged in many suitable scientific projects with commercial possibilities. One explanation for departmental reluctance to follow the policy, the authors conjecture, is "the priority attached by the department to assembling and maintaining an internal R&D staff." That being the case, "the goals of EMR would appear to be incompatible with those of government."

A third department, Defence, may have resisted implementing the policy as well, although evidence is ambiguous. The department did a good deal of contracting-out prior to the directive but less thereafter. The possible failure of the policy in this case, Supapol and McFetridge say, may reflect high contracting costs or, perhaps, conflicting departmental and governmental goals.

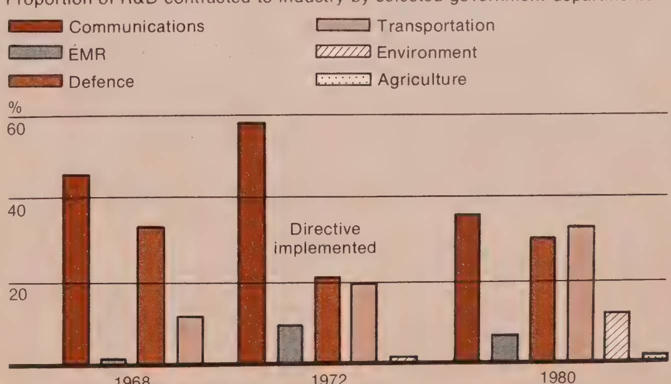
Four departments – Health and Welfare, Environment, Agriculture, and Transport – did implement the directive as requested, but with negative results. The first three did virtually no research with commercial appeal, so most contracts went to the service sector rather than to industrial companies. The fourth, Transport Canada, handed out a high proportion of its contracts to service firms, too. In this case, though, departmental R&D projects in the works did have commercial possibilities – but the department contended that contracting-out scientific research was frequently impracticable.

In sum, the authors conclude, despite the enormous potential of the make-or-buy policy, its net result to date has been that "constant dollar industrial R&D contracting has actually fallen, while service sector contracting has risen."

"An Analysis of the Federal Make-or-Buy Policy," by A. B. Supapol and D. G. McFetridge. Discussion Paper No. 217.

Impact of the "make-or-buy" policy

Proportion of R&D contracted to industry by selected government departments[1]



1. Exclusion of bar means no, or negligible, contracting was done by department in question

IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

Women in single-parent trap

In its recent report on the Canadian labour market, the Economic Council refers frequently to groups who find themselves at a disadvantage in that market. And it examines a number of problems affecting the largest of these groups: women.

Such issues as access to education and training – and to the labour market itself – discrimination within the labour market, and the high proportion of women among the long-term unemployed are considered in the report. A particularly interesting area of research concerns a high-growth group: women who head single-parent families.

Differing family structures not only impose differing costs and constraints on the ability of individuals to participate in the labour market, but also – because of social transfer programs and the income tax system – cause remuneration to vary widely. Among a number of simulations set up for different family types assumed to be living in Metropolitan Toronto in 1979, the Council studied the case of a single-parent family in which the mother, "Mrs. Smith," was not employed but stayed home to look after her two children, aged 2 and 7.

In such a case, Mrs. Smith would receive social assistance under the Ontario Family Benefits Act. She would also receive financial assistance from Family Allowances, the refundable Dependent Child Tax Credit, and Ontario Tax Credit programs. Despite these contributions, her total income for 1979 would have amounted to only $6,131 – i.e., more than a third lower than Statistics Canada's "low income cut-off" of $9,775 for such a family in 1979.

One might assume that Mrs. Smith would be better off to arrange other care for her children and get a job. But this is by no means certain.

Suppose Mrs. Smith did decide to work full-time. She must average no more than 120 hours of work a month; otherwise, in 1979, she would be disqualified from social assistance under the Ontario Family Benefits Act. If her annual employment income amounted to half the 1979 average Industrial Composite Wage, i.e., $7,494, her social assistance payments would be reduced by more than $4,500, leaving her with just over $30 a month from that source. The other allowances and tax credits would remain the same, but Mrs. Smith would have to contribute to the Unemployment Insurance and Canada Pension plans. If she could place her younger child in a Metropolitan Toronto day care centre, she would be faced with a minimum monthly charge of $189.

When all the calculations are done, Mrs. Smith would end the year with $8,679. In other words, a full year of work would net her an additional $2,548 on a gross income of $7,494, resulting in an effective tax rate of 66 per cent on employment income. Her effective wage rate would be about $1.77 an hour, and she would therefore have joined the ranks of the working poor.

Worse still, if Mrs. Smith had no control over hours worked per month, she might be disqualified from all social assistance and related social and medical services. If space were not available in the public day care system, she would probably have to pay much more for child care. And if she could not command even half the Industrial Composite Wage, her financial position would be bleak indeed.

One way out of this kind of poverty trap, says the Council, is to increase the immediate returns to labour market participation – such as an "employment expenses tax credit" designed to assist with the cost of working.

The Economic Council plans to examine the question of women in the labour force in some detail, and will be releasing a series of studies on the subject in the future (see *Au Courant*, Vol. 2, No. 4).

Based on material from *In Short Supply: Jobs and Skills in the 1980s* (EC22-108/1982; $7.95 in Canada, $9.55 elsewhere).

Job market poor for native peoples

Among the disadvantaged groups in – or standing on the edge of – the Canadian labour market, the native population occupies a particularly unenviable position. Unemployment among native peoples is higher than for any other segment of Canadian society. Those who are employed work mainly in unskilled jobs, with low wages and poor advancement prospects.

Compounding this problem is the likelihood that native peoples will become an increasingly important component of labour supply during the 1980s. Having experienced a delayed baby boom, the working-age population of native peoples is expected to grow at a rate well over double that projected for the rest of the country during this period.

While many factors – cultural, political, and economic – enter into the problem, it is obvious that greater opportunities for education and training will be required before the native peoples can hope for even small improvement in access to the job market.

Better access means skill training. Access to skill training implies a higher level of general education than many native peoples have acquired; dropout rates are extremely high. Yet, in past years, the federal government has discontinued adult education programs on reserves, thus reducing the chances of access to many of the skills now in such short supply in the western and northern regions of the country.

Cultural differences and a history of discrimination, says the Council, would seem to make self-determination an attractive feature of any program designed to alleviate these difficulties. While government money is necessary if Canada's native peoples are to have a better chance in the labour market, past experience indicates that the benefits of funding appear greatest when a maximum amount of decision making is carried out by the native peoples themselves.

Based on material from *In Short Supply: Jobs and Skills in the 1980s*.

Timely look at job-hunting

Looking for work? You're in good company these days, one of a multitude of job-hunting Canadians who have turned this activity into a billion-dollar industry.

Even as long ago as 1977, when unemployment was not nearly as high as it is now, one out of every 10 men, women, and teen-agers in our labour force was trying to find a job, some by choice in order to better their situation, and others from grim necessity. The overall costs of their search probably ran at around $1 billion a year.

For economists and policy makers trying to come to grips with Canada's unemployment problem, understanding the whys and wherefores behind the jobsearch process has taken on considerable importance. Labour market researchers have made the valid point that unemployment resulting from the brief lags between the time people leave old jobs and find new ones – so-called frictional unemployment – can be an earmark of a healthy and dynamic labour market. All that is needed to keep everything running smoothly, they argue, is more and better information about the labour market, and policies designed to keep search costs under control.

Recently, though, others have countered that this kind of joblessness doesn't account for the greater part of the high unemployment rates plaguing many western economies today. They argue for more stringent manpower policies, such as training and job creation programs.

In any event, there's general agreement on the need for thoroughgoing research into this complex issue. So a recent Economic Council study, written in connection with the Council's report on labour markets (*Au Courant*, Vol. 3, No. 1) is most timely. Economists Abrar Hasan and Surendra Gera focus on the overall significance of job-hunting in terms of four key questions. How widespread is it? Do people follow a particular game plan when they're looking for work? What determines how long they'll put up with unemployment in order to find what they want? And finally, how many land higher-paid jobs as a result?

Analysis of the annual average monthly data from the Labour Force Survey for 1977 indicates that remarkable numbers of Canadians – one out of every 10 in the labour force – are out looking for a job at any given time. Not all are unemployed by any means; more than 25 per cent in fact are still working, but want better pay, working conditions, chances of promotion, and so forth. This group doesn't seem to be put off by job shortages either. Even in a province with high unemployment, such as Newfoundland, many employees are on the lookout for better opportunities.

Ninety per cent of Canada's unemployed are also hunting down jobs – a disproportionate number of them women, teen-agers, or young adults. And about one-third of the total have actually quit work deliberately in order to find something better.

Job hunters appear to follow a general strategy that weighs the pros and cons of further search, Hasan and Gera discovered. As a rule, they start out with a certain salary in mind, confident they'll land a more attractive position. The longer they're unemployed, though, the more prepared they become to accept somewhat lower wages – particularly during a recession. Highly paid workers and union members are relatively more flexible in this respect, partly, perhaps, because unemployment insurance benefits don't replace a good portion of their wages.

Whether it pays to go job hunting, and how long you should keep at it, depends largely on who you are, the authors found. People who quit in order to find new work usually do come up with something better – in contrast to those who have been laid off – probably because they are more informed about the job market and more self-confident, and perhaps because they seem a better bet to prospective employers. As well, people who combine on-the-job search with further hunting while unemployed do better than those who begin to look only when they're out of work.

Women benefit (as do all groups) as long as they find work within 15 weeks – but looking longer means they'll forgo 4 per cent in wages for each additional jobless month. For men, on the other hand, it pays to be even more choosy: each extra week of unemployment could add as much as $2 (in real terms) to their wages.

The explanation for this difference probably lies in the kind of jobs men and women tend to hold, the authors say. Men as a rule operate in what economists call the "primary labour market" where salaries are higher, skills greater, jobs more permanent, and promotion more likely. Job hunters in this market stand a better chance of improving their positions through an exhaustive search. Many women, on the other hand, are trapped in the "secondary labour market" in low-paying, unspecialized jobs: opportunities there are limited, with little to be gained from prolonged searching.

Active job hunters probably account for slightly less than half of Canada's unemployment rate, Hasan and Gera conclude, indicating that the labour market is functioning reasonably well, and would benefit from supply measures to streamline the matching of people and jobs. On the other hand, signs pointing to the co-existence of two labour markets suggest that manpower policies will also be necessary.

So the authors suggest taking a two-pronged policy approach to handle problems on both the supply and the demand side; and they advocate careful analysis of institutions and laws contributing to the creation of labour market barriers, with an eye to eliminating these obstructions altogether.

Job Search Behaviour, Unemployment and Wage Gain in Canadian Labour Markets, by Abrar Hasan and Surendra Gera. Available later this year.

Voter appeal key in policy making

Voter appeal, not logic, determines the choice of policies to regulate economic activity, says a recent Economic Council study.

University of Toronto professors M. J. Trebilcock, R. S. Prichard, D. G. Hartle, and D. N. Dewees, in a report prepared for the Council's study on government regulation of the economy, say that Canada's regulatory system is a creature of the political process, rather than the logical creation of economic planners. Reformers of regulation will have to come to terms with that reality, they caution, in attempting to achieve their objectives.

While subtlety is the keynote to imposing taxes, when it comes to government spending in that area "doing good works by stealth is rarely a political virtue." Transfer payments to the

"Asking how we can achieve superior regulation is equivalent to asking how we can achieve a better system of politics."

provinces have the poorest political pay-off in this regard, while Old Age Security, Guaranteed Income Supplement, and Family Allowance cheques, frequently accompanied by "propaganda-type messages," score the most points. The high visibility of these payments is of great advantage to a ministry when it can announce increases or extensions, the authors note.

As a policy instrument, public ownership has its political uses, too. Crown corporations have the great appeal of "a lack of explanatory power," say the authors. They enable politicians to keep a low profile while reversing policy decisions or imposing taxes. They're attractive, too, as a way of making a symbolic gesture – on issues of foreign ownership, for example – or soothing public anxiety with promises of new beginnings, as in the recent reorganization of the post office. This policy approach is gaining in popularity, the authors say, and now touches on many fields of activity: natural monopoly regulation, such as provincial hydros and some provincial telephone systems; nation building and community development, as with the CNR, Air Canada, and the CBC; and the promotion of national security and security of supply, as with Petro-Canada, Telesat,

"The striking common feature of all traditional summaries of the rationales for the choice of public ownership as the instrument of intervention is their lack of explanatory power."

and Eldorado Nuclear, are only a few examples.

Given these political realities, the authors conclude, attempts to reform regulations by improving their economic efficiency are unlikely to have much effect. In fact, they say, "Asking how we can achieve superior regulation is equivalent to asking how we can achieve a better system of politics." With that in mind, they suggest various reforms to improve political organizations and processes. Proportional representation, Senate reform, new rules on party financing, subsidization of small interest groups, and freedom of information legislation are some changes that in their opinion could make the process of policy choice more economically efficient.

Economists can make a contribution, too, by providing politicians with more

"Most tax experts would probably agree that the manufacturers' sales tax is probably the worst major tax in existence in this country from a technical point of view."

and better information on the implications of policies under consideration. Even more important, they can affect the ultimate decision making process by influencing voter knowledge and understanding, and hence voter decisions. "While politicians can and do ignore economists," the authors conclude, "they cannot, however, easily ignore voters armed with relevant information."

In any democracy, their argument runs, politicians will operate with one clear goal in mind: winning elections. So, they will invariably choose policies that appeal to key potential voters, while imposing costs on other, less critical groups. "In short, a strategy that seeks to magnify the gain and depreciate the pain will be influential in instrument choice," the authors conclude.

Voter ignorance, coupled with "the mass media imperative to satisfy the demand for simple answers to complex questions" makes this tactic possible. Further, in the event that they do encounter unexpected public disapproval for a particular policy approach, politicians can easily substitute another course of action, thanks to the wide variety of potential policy instruments at their disposal.

The four professors draw attention to a number of public policies and mechanisms in order to prove their case, including Royal Commissions and Task Forces, methods of taxation and tax expenditures, use of Crown corporations, and the choice of regulatory

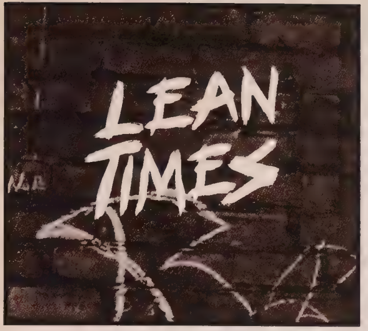
"'Doing good works by stealth' is rarely a political virtue, where expenditures on marginal voters are concerned."

instruments in the fields of environmental protection and agriculture.

Use of illusion in taxation, in the authors' view, clearly illustrates how politicians follow the old adage that "What the eye doesn't see, the heart doesn't grieve about." They point to the manufacturer's sales tax as a classic example of a tax that raises major federal revenues and yet is unknown to most voters. Even though tax experts agree on its critical technical weaknesses, the tax remains popular with politicians for the simple reason that it lies buried in the prices paid by retailers, where increases pass largely unnoticed by the consumer.

The personal income tax is another example of political sleight of hand, in this case affecting all working taxpayers. Generally oblivious to the amount of taxes deducted at source from their pay cheques, employees tend to regard their take-home pay as their actual income – and so rejoice at any refund coming in at the end of the fiscal year, "instead of being outraged at the fact that they have been forced to make a non-interest-bearing loan to the government."

The Choice of Governing Instrument, by M. J. Trebilcock, R. S. Prichard, D. G. Hartle, and D. N. Dewees. (EC22-101/1982E, $8.95 in Canada, $10.75 elsewhere).



In this year's review of the economy, the Economic Council of Canada takes a hard look at the country's short-term economic prospects in the context of current lean times, before examining in depth the implications of these prospects for the medium term and making appropriate policy recommendations. The material on the next eight pages is based on the 1982 Annual Review, ***Lean Times: Policies and Constraints.***

Canada's economic performance has deteriorated significantly over the past year. The current recession has been both longer and deeper than most people expected, bringing with it much hardship and badly undermining the hope with which Canadians entered the 1980s.

Although the recession can't be blamed for all our ills – structural weaknesses in the economy provide their fair share of input – many domestic and external forces have combined to produce Canada's current lean times. A look at some of these forces should help put the problems facing us into perspective.

The last few years have been turbulent ones for the world economy. The international oil price shocks of the 1970s touched off waves of inflation worldwide, which tighter demand management policies ultimately translated into slowed growth – most notably, lost output and high unemployment. Still, inflation remained high.

Monetary policy was especially tight in the United States, with subsequent high interest rates largely responsible for kindling the back-to-back recessions of 1980 and 1981-82. Changes in the international trading environment added to the various forces already buffeting the Canadian economy.

The 1981-82 recession in Canada has turned out to be the most severe in the postwar period. The two recessions (1980 and 1981-82) are expected to keep average real growth to virtually zero over this period – a considerable slowdown from the average 3.1 per cent growth of the 1975-79 recovery and a striking drop from the average 5.5 per cent in the 1960s and early 1970s.

Among other things, the current recession has spawned an unemployment rate of almost 12 per cent. Despite this slack in the economy, inflation not only persisted but worsened. The 12.5 per cent rise in the consumer price index (CPI) in 1981 has been edging down only slowly and will produce a lower, but still double-digit, inflation rate for 1982.

The current weakness of demand in the Canadian economy reflects monetary and fiscal restraint, weak business finances and the reluctance of consumers to spend. The drop in demand has particularly affected the automotive industry, residential construction and business investment. In fact all the major components of demand – with the exception of government – have registered declines over the past year.

Not surprisingly, corporate finances have been squeezed by a combination of reduced profits and growing debt commitments. Slackening activity and high interest rates were largely to blame for a 22 per cent rise in business bankruptcies in 1981, with another 37 per cent increase in the first half of 1982 over the same period last year.

Higher energy prices, though unfortunately necessary on other grounds, have been a major contributor to high inflation rates. While Canadians were initially shielded from increases in world energy prices, they are now feeling their effects, with the CPI for energy rising by 16 per cent in 1980 and by 30 per cent in 1981.

Wage settlements have come to reflect the high rates of inflation, with average weekly wages and salaries increasing at an annual rate of about 12 per cent in 1981.

Employment growth, which rose rapidly in the 1970s, has weakened considerably. As mentioned, the unemployment rate is now running close to 12 per cent, a postwar record, with the long-term unemployed bearing a disproportionate share of the burden, and with certain groups and regions harder hit than others.

Through all this there has been a disturbing slowdown in long-term labour productivity, reflecting both cyclical and structural forces at work. And externally, Canada's current account balance – a source of strength in 1980 – became a factor in the economy's poor performance in 1981.

The tightening of U.S. monetary policy and resulting sharp climb in interest rates had a pronounced impact on events here. As Canadian monetary policy remained tight in the fight against inflation, interest rates followed U.S. rate increases in both 1980 and 1981, while the Bank of Canada kept a close eye on the exchange rate between the Canadian and U.S. dollars. The exchange crisis of summer 1981 – when the Canadian dollar fell 3 per cent against the U.S. dollar in as many weeks – left the Bank no choice but to hike short-term interest rates to the stratospheric level of 23 per cent. The run on the dollar was halted, but the impact of the high rates on the economy is still being felt.

Fiscal policy, for its part, was launched on a more restrictive course in the October 1980 budget. At that time, the government adopted an explicit policy of deficit reduction, with fiscal policy to be aligned more closely with monetary policy in the battle against inflation. But with an acute worsening of the fiscal position as a result of the recession, the federal government now faces a budgetary deficit of $19.6 billion for fiscal 1982/83.

Canada has entered the 1980s in difficult economic straits, and it appears Canadians will have to look to the medium term – some 3-5 years hence – for genuine signs that the current lean times are ending and that the economy is again on the way to realizing its full – and considerable – potential.

New projections for the economy

Changes in Canada's economic prospects during the last year emphasize the uncertainty of economic projections. In order to develop an up-to-date view of the future, we focus on current information about the future course of events, on the present position of the economy, and on its past performance.

As part of its yearly review of the Canadian economy, the Council makes a basic projection of the key economic indicators – which it calls the "base case" – founded on certain specific assumptions. It then uses this basic projection to try out various scenarios, or alternate cases, to see how the economy would be affected.

In 1982, a base case plus a more favourable and a less favourable projection are presented. The base case is built on a set of working assumptions related to the external environment (including international oil prices), fiscal policy, monetary policy and domestic energy policy.

Here are the highlights of the 1982 base case:

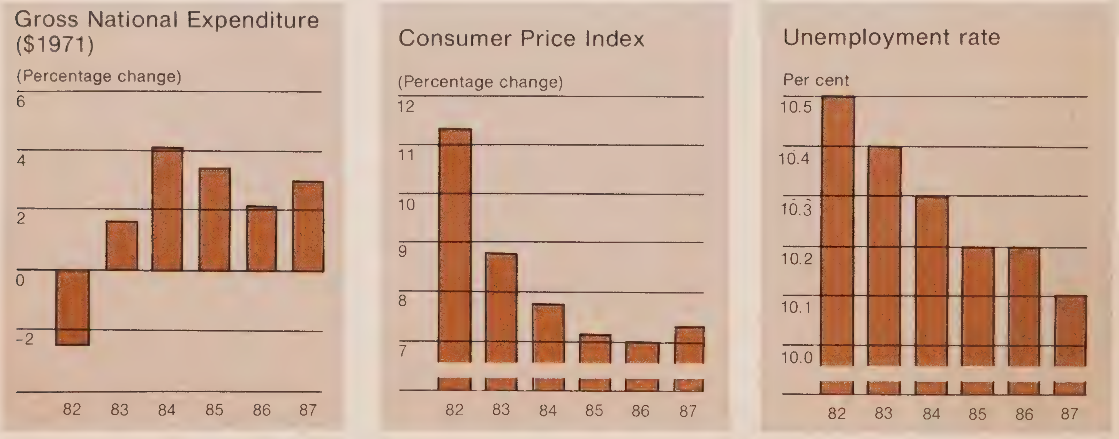
- Because of very poor performance during the first six months of 1982, real gross national expenditure (GNE) is expected to decline by 2.4 per cent for the year as a whole. Canadian economic growth will average 2.8 per cent in 1983-84 – just barely in line with potential growth – and the same in 1985-87.
- One indication of current poor performance is the anticipated average unemployment rate of 10.5 per cent for 1982. As the gap between actual performance and potential is expected to show little improvement in the medium run, the unemployment rate could average just above 10 per cent over the next five years.
- The rate of inflation, as measured by the consumer price index (CPI), will average 11.4 per cent in 1982. This average will drop to 7.9 per cent over 1983-85, with inflation nearing 7.2 per cent by mid-decade.
- Employment is expected to decline sharply in 1982. During the recovery period, employment prospects will just keep pace with relatively moderate labour force growth. By mid-decade, job opportunities will expand, but not enough to imply a substantial fall in the unemployment rate.
- In the medium run the growth of productivity and real wages will increase at a rate slightly lower than 1 per cent per year – a considerable decline from the late 1960s and early 1970s. Growth of these two key indicators will remain substantially below past performance.
- During the current recession, the personal savings rate increased to just above 13 per cent from its previous norm of about 10 per cent. With the anticipated recovery, this rate should drop by 1-2 percentage points but may not decline further in the medium term.
- Real investment as a percentage of GNE is expected to decline over 1982-84. There should be an increase in this ratio from a low of 22.1 per cent in 1983 to a high of 24.3 per cent in 1987.
- The federal deficit as a percentage of GNE will remain large and will persist to mid-decade. The sharp downturn in 1981-82 has led to a short-term erosion of the tax base, and the continued poor performance of the Canadian economy will contribute to reduced growth in all forms of tax revenue.
- The current account deficit of the balance of international payments will fall slightly as a percentage of GNE. The energy balance will strengthen in the medium run, but by mid-decade the nonenergy current account balance of payments will again show weakness.

The assumptions underlying this year's base case include, among other things: average real U.S. growth of 3.8 per cent in 1983-84 and 3 per cent over 1985-87; an increase in international oil prices of 1.9 per cent (nominal) in 1983 and an average of 2 per cent (real) over 1984-87; fiscal measures as set out in the November 1981 and June 1982 federal budgets; and money supply growth held to the midpoint of the Bank of Canada's 4-8 per cent target band.

Once the base case projections are set, Council economists then use the CANDIDE econometric model to simulate how these prospects would change if alternate cases were considered.

What lies ahead for the economy

Projected changes in key economic indicators, 1982-1987



In 1982, seven alternate cases were chosen to see how they would affect the basic projections for selected economic indicators over 1983-87. The alternate cases chosen were: higher and lower U.S. growth; higher and lower international oil prices; a lower personal savings rate; reduced wage expectations; and reduced megaproject activity.

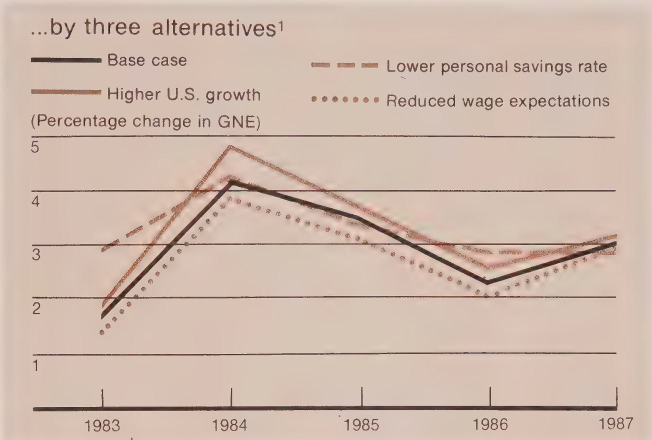
If we look at the key economic indicator of real gross national expenditure, for example, we can see just how the seven alternatives would change the basic projections for GNE over the medium term.

Considering first the impact of the U.S. recovery on the Canadian medium-run outlook, we can see that in the case of higher U.S. growth, real growth of Canadian GNE cumulatively could be 1.2 percentage points higher by 1985 (see chart). On the other hand, lower U.S. growth could reduce GNE growth cumulatively by nearly 1 percentage point over 1985-87. So even a strong U.S. recovery cannot be counted on by itself to improve the outlook substantially.

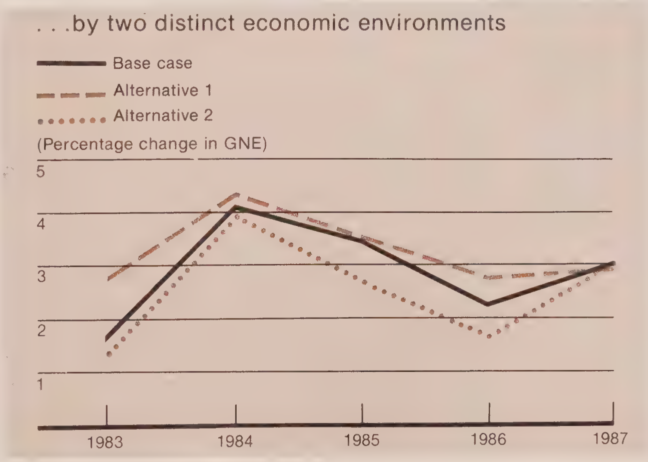
In the case of international oil prices, an assumption of higher prices over 1983-87 than those projected in the base case implies lower real GNE growth as well as higher rates of inflation and lower federal deficits. Lower international oil prices would produce the reverse.

The influence of the personal savings rate on Canadian medium-term prospects is significant. The base case projection for 1983-85 shows a decline in the rate to an average 11.3 per cent, leveling off to an average of about 11 per cent in 1985-87. In order to see what a personal savings rate lower than that projected might produce, Council economists developed a case where the savings rate would average about 9 per cent during 1985-87, with a prior decline to 10 per cent in 1984. If this were to occur, real GNE growth in Canada could reach an annual average of 3.2 per cent in 1983-87, substantially above the 2.8 per cent average of the base case projection.

How growth is affected



1. assuming no change in domestic policy stance



Turning to the effect of reduced wage expectations on real GNE growth in the medium term, Council economists speculated on the outcome if the federal government's wage restraint guidelines reduced wage expectations throughout the economy to 6 per cent in 1983 and 5 per cent in subsequent years. Inflation would be lowered, but not by as much as wages. The growth rate of GNE would be depressed by the real wage loss.

The seventh alternate case, reduced megaproject activity, would cut back GNE growth in 1985-86, with a lower ratio of investment to GNE and higher unemployment rates.

Finally, Council economists considered combinations of some of the above alternate cases which, if incorporated in the base case, could have a significant impact on the base case projection.

For example, we could combine higher U.S. growth, higher international oil prices, a lower personal savings rate and reduced wage expectations to yield alternative 1. In this case, real GNE growth would average a little less than 3.5 per cent over 1983-85, a substantial improvement over the 3 per cent average of the base case projection for this period (see chart). This alternative would also produce a decline in both the unemployment rate and the federal deficit, though not enough to balance the federal budget or return unemployment rates to the level of 6 per cent.

On the other hand, we could assume a combination of lower U.S. growth, lower international oil prices and reduced megaproject activity to give us the less favourable alternative 2. This would produce a mid-decade reduction in real growth, combined with continuing high unemployment rates and federal deficits.

It would seem then that even in the best of circumstances, Canadians cannot expect a dramatic improvement in economic prospects over the medium term.

Key medium-term issues

In assessing the Canadian economy's current lean times, the Council took an in-depth look at four important medium-term issues – inflation, investment, housing, and the current account of the balance of payments.

While these issues are all related to present economic difficulties, each also embodies fundamental problems with potentially important implications for the economy's performance in coming years. The problems and challenges posed by inflation, for example, constitute a recurrent theme that will be with us for some time yet, affecting the other three issues in a wide variety of ways.

Inflation

Concern over inflation is not new, but it has become more pressing in recent years with high rates of price increase that are becoming deeply entrenched in the Canadian economic system. As a result, there has been a sharpening of the conflict between those who are concerned about the failure of government policy to significantly reduce inflationary pressures and those who worry about the costs such policy measures would entail.

Certainly a sustained weakness in demand will eventually produce a substantial reduction in inflation. Price and wage expectations will change over time in response to vigorous anti-inflationary policies. The federal government's 6 and 5 per cent guidelines set out in the June 28, 1982 budget may help speed up the process.

As this occurs, the reduction in demand imposed by the government will likely have more of an effect on prices and show up less in the form of reduced output. Because of the large chronic component of inflation, however, these results will probably materialize slowly and at considerable cost.

If the development of an appropriate policy response requires an understanding of the costs of reducing inflation, it also implies an appreciation of the costs of living with it. The latter comprise economic efficiency costs, which arise because the inflationary process leads to some forms of waste and the use of additional resources, and distributive costs, which result from the fact that inflation produces both winners and losers.

Economic costs arise from the effect of inflation on economic growth, because rising prices lead to the use of additional economic resources and produce distortions and other inefficiencies. Examples include the difficulties and costs of long-term planning when there is much uncertainty about future price performance, and distortions in the tax system.

The distribution of income and wealth is also affected by inflation. According to the Council, winners here include those who have held appreciating assets, such as real estate, while losers include those who have held long-term fixed-income financial assets and unindexed pensions.

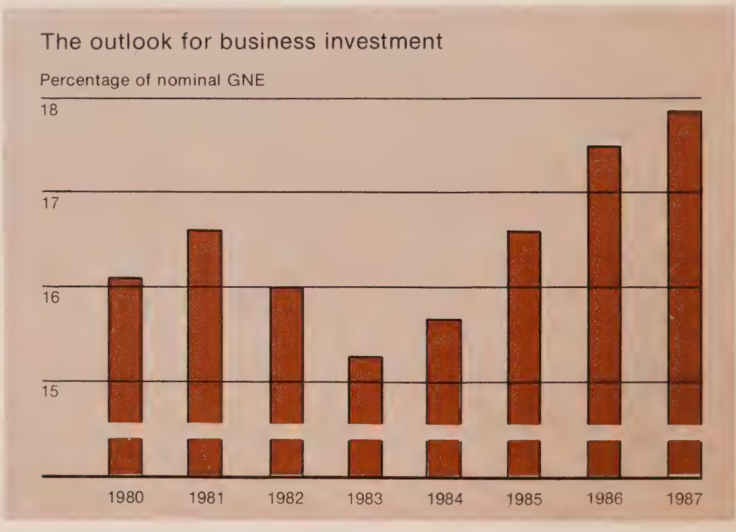
Ultimately, the basic policy question is: Do the longer-term benefits of controlling inflation – improved efficiency and higher real output, along with a less haphazard and more equitable distribution of income and wealth – outweigh the costs of temporarily forgone output and employment? In the Council's view, control of inflation remains very important, although there may be some scope for judgment with respect to how quickly reasonable price stability can be achieved. A desirable policy would balance the need for firmness and resolve with a sensitivity to the extreme hardship that would result from efforts to reduce inflation too quickly.

Investment

The importance of investment – the dynamic element on the supply side of the economy – hardly needs to be emphasized. Among other things – and if conditions are right – it can be a leading force in generating growth of demand. But because business investment tends to lag behind the business cycle and does not pick up until recovery is well under way, the question at the moment is whether and to what extent investment is likely to be a factor in the Canadian economy's recovery from the current recession.

At present, the investment climate is not good. Low operating rates are expected to persist. Relief from high real interest rates (i.e., nominal or actual interest rates minus the rate of inflation) is likely to be limited as long as a restrictive monetary policy is maintained. The financial position of the business sector is weak. Profits are down and are not expected to bounce back quickly. Balance sheets are strained. In a word, conditions are decidedly not right for strong growth of business investment in general.

Before passing judgment on the likelihood of a strong investment-led recovery, we should consider the prospects for investment in megaprojects which, despite their concentration in the energy sector and in the western part of the country, could generate benefits to other sectors of the economy and to all regions of Canada. These projects should contribute more generally to economic growth by creating a broad-based demand for the output of primary industries, construction, manufacturing, utilities, trade, finance and services, with the resulting employment



increases spread across the entire country.

However, with the softening of international oil prices and consequent limits to scheduled increases in the domestic oil price, and with the emergence of excess generating capacity for electricity, incentives for expanded energy megaproject activity will be reduced. If we also consider the risks inherent in such projects, it would perhaps be prudent not to count so heavily on them to fuel growth over the decade.

In summary, total business investment is projected to decline in 1983 to 15.3 per cent of gross national product (GNP) from its high of 16.6 per cent in 1981 (see chart). The weakness in investment is expected to be concentrated in the manufacturing sector – especially hard hit by the recession and high real interest rates. Investment is projected to lag rather than lead the recovery, and will probably not pick up strongly until 1985.

Housing

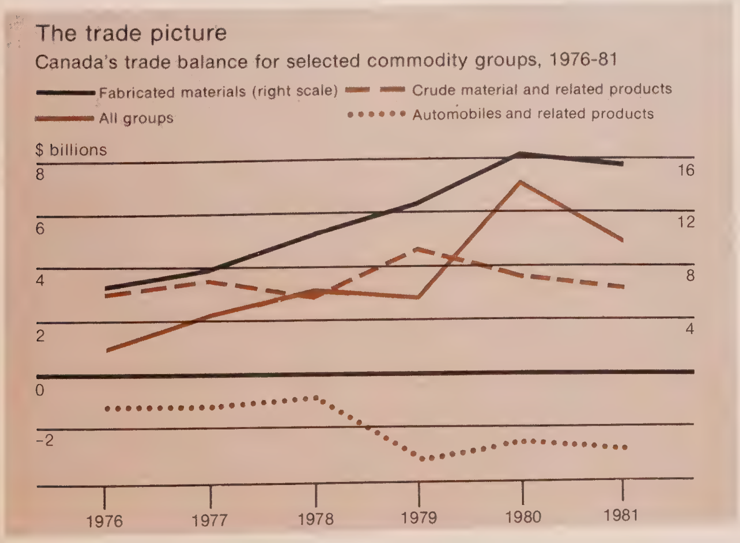
The outlook for housing in the medium term is clouded by the prospects of high interest rates and slow growth in real personal disposable income. Against such a backdrop, a gap of an average 43,000 units per year between housing starts and requirements has been projected over 1982-86, yielding a cumulative shortfall of almost 215,000 units by 1987.

Homeownership has long been favoured as an investment as well as for the accommodation it provides. The prospects of capital gains have attracted many into the housing market, with the exemption of principal residences from the capital gains tax providing an extra boost. However, with high interest rates and a relatively tight monetary policy, the chances of realizing real capital gains are not as favourable, and housing may no longer look like such a good investment. And while federal and provincial assistance programs may provide some help, prospects are far from rosy.

For rental accommodation, the story is similar but the actors are different. The landlord rather than the tenant faces the immediate impact of high interest rates. With such rates, investment in rental construction without government support doesn't look like a paying proposition. There is thus a shortage of equity capital for rental developments.

A wide gap has opened up between rents and the operating and financing costs of new units. Rents of existing units tend to increase only sluggishly due to rent controls and other characteristics of the housing market. Mortgages taken out at earlier, lower rates also hold down rent increases. At current mortgage rates, rents might equal only half the costs of a new project. Not many new rental units will be built on these terms.

As with owned accommodation, government assistance is helpful. But, says the Council, there is no way to avoid the basic reality that substantial rent increases will be needed to bring rental supply and demand into balance.



Current account of balance of payments

Canada's current account deficit in 1981, while the largest on record in absolute terms, was not unusually large relative to the size of the economy; it amounted to 1.6 per cent of GNP. This was lower than most years since the mid-1970s when, with two exceptions, it was around 2 per cent.

The deficit on the service component of the current account has increased steadily since 1967. The continuing growth in Canada's foreign indebtedness will likely increase the deficit further in coming years. The question then is whether growth in the merchandise surplus will offset the rise in the service deficit or at least be sufficient to prevent the current account deficit from increasing in importance.

There are both positive and negative elements colouring the outlook for Canadian trade. The data available suggest that, due to the weakness of the economy and the resulting sluggishness of imports, the country may be heading for a record trade surplus this year. Other factors, including the projected U.S. recovery in 1983 and 1984, augur well for medium-term prospects.

On the negative side are the relatively fast growth rate of Canadian costs – especially the rapid rise in domestic labour costs – and their impact on the competitiveness of Canadian manufacturing; the growing threat posed by the newly industrialized countries; and the emergence within the industrial nations of some strong protectionist sentiment that could endanger the considerable progress made toward increased trade liberalization.

According to the Council, the positive elements will be strong enough to yield significant improvement in Canada's trade performance in coming years. In spite of this, it is likely that the current account deficit will edge upward in the medium term. But although the deficit will probably be higher in absolute terms by the mid-1980s, it may not increase as a proportion of GNP.

So while it will be necessary to monitor carefully Canada's trade in goods and services, says the Council, there is a reasonable basis for optimism that the deficit in such trade can be kept within manageable proportions.

Fiscal and...

The government's fiscal strategy has been designed to support its monetary policy in fighting inflation and, as a result, has become more restrictive. Since the first budget brought down by the present government in October 1980, fiscal policy has been cast in terms of spending restraint and deficit reduction.

Three events, however, have overtaken this strategy – the recession, the increase in interest rates and the softening of international oil prices. The last bears directly on the domestic oil price, and all three have produced either increased spending or a substantial reduction in government revenues.

The result was the announcement by the Minister of Finance in the June 28, 1982 budget that the deficit for the 1982/83 fiscal year is now projected at \$19.6 billion, more than \$9 billion higher than forecast in the November 1981 budget.

In the Council's view, this larger deficit, while giving cause for concern, is understandable and manageable under current circumstances. In recent months the balance of risk has shifted from worsening inflation to growing unemployment. A moderate additional injection of fiscal stimulus, says the Council, might be considered in order to restore the balance – "moderate" meaning in the \$2 billion range, which represents 0.5 per cent of GNP.

"To accept larger deficits in the present circumstances is not to throw in the towel in the fight against inflation."

It is true that a moderate dose of fiscal stimulus will not by itself have an overwhelming impact on the economy. It will not make the difference between recession and slow growth or between slow and rapid growth. It would raise GNE by only about 1 per cent, and would lower the unemployment rate by roughly half that amount.

What it can do, however, is give a signal to economic agents that the government still stands ready to stabilize the economy if necessary. If businessmen and consumers are confident of this, they will be willing to proceed with investment and spending on consumer goods, and the economy will be more likely to stabilize itself.

The impact of administering different types of moderate doses of tax cut stimulus to the faltering economy can be illustrated using CANDIDE, although the exact magnitude of the economy's response to a tax cut cannot be predicted with any precision. The tax cuts considered are: a personal tax cut, a reduction in the corporate income tax, and a cut in the general manufacturers' sales tax. Each of these cuts would cost about \$1 billion and could be combined in various ways to yield up to a \$2 billion tax cut package.

A \$1 billion cut in the personal income tax rate would raise disposable income and thus stimulate consumer spending, particularly on high-priced durables such as cars and appliances. Production would expand to meet this new demand, with a corresponding increase in output and employment.

A cut of this sort, taking effect in 1983, would raise real output growth by 0.2 per cent that year and lower the unemployment rate by 0.1 per cent. By 1985 real output would be up by 0.3 per cent and the unemployment rate down by 0.2 per cent. These are not large effects, but they could provide additional support to the recovery.

"A modest net tax cut might serve as a spark plug for the private sector engine of recovery. A massive net tax cut would not only start the engine, but could set the economy off down the road to greater inflation."

However, the principal factors in a recovery of consumer expenditure appear to be lower interest rates and a restoration of consumer confidence, rather than a lack of disposable income. In addition, the design of an equitable reduction in personal income taxes may be especially difficult in the period ahead, in view of the incomplete state of legislation on the changes in personal taxation from the last two budgets and the complications that arise from the incomes and prices policy.

All or part of the stimulus could take the form of a corporate income tax cut. This would focus more directly on lagging business confidence and on providing some measure of relief from financial stringency. It would thus restore the business community's will to invest. On the other hand, under the present circumstances the responsiveness of investment to corporate tax cuts may not be large.

The Council considered a \$1 billion reduction in the corporate income tax effected by lowering the federal tax rate by 15 per cent. Starting in 1983, this would increase real GNE by 0.1 per cent that year. By 1985 output would be 0.5 per cent higher and the unemployment rate 0.2 per cent lower. Capital stock would be 0.4 per cent greater in 1985 and productivity would be up by 0.3 per cent, reflecting the increased supply of capital inputs and the higher level of demand.

An indirect tax cut is another attractive way to administer a moderate dose of stimulus. A reduction in the general manufacturers' sales tax of \$1 billion, if passed on to consumers, would stimulate consumption, particularly of durables and semidurables, which are more heavily taxed.

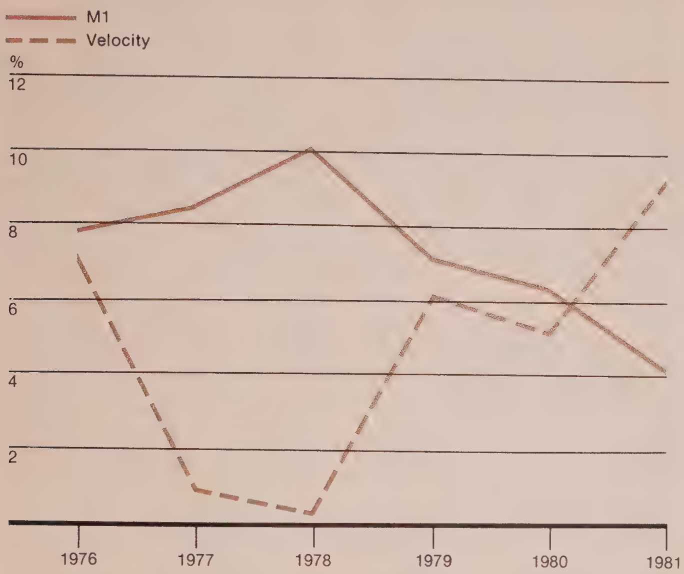
". . .it is important that the government carefully explain to the public the reasons for the larger deficit and reaffirm its continued commitment to fiscal restraint."

A cut of this type, starting in 1983, would increase GNE by 0.2 per cent that year and by almost 0.5 per cent by 1985. The unemployment rate would decrease by 0.2 per cent by 1985. The drawback is that there is a limit to how far it would be desirable to reduce this tax, because of its relatively narrow base (which excludes most food and clothing). And unless the proposed shift in the point of impact to the wholesale level had been made, it would be difficult to identify and measure the extent to which cuts in the manufacturers' sales tax were passed on to final purchasers.

All the tax cut simulations demonstrate that a modest injection of tax cut stimulus can be expected to have a relatively small positive impact on economic activity and employment. No promises of supply-side miracles can be made. But a tax cut would indicate to Canadians that the government is committed to getting a recovery under way. A modest net tax cut at this time, says the Council, could help to restore the confidence of investors and consumers and spark a resurgence of spending.

...monetary concerns

Money supply growth and velocity[1].



1. Speed of money circulation. Here defined as GNP divided by M1.

For almost six years, the Bank of Canada has been pursuing a policy of gradually reducing the growth rate of the money supply. Monetary policy is set on a firm anti-inflationary course, with a current target range for money supply growth of 4 to 8 per cent. The narrowly defined money supply, M1 (comprising the total amount of demand deposits and currency in circulation), has actually been running below the bottom of the range recently.

The consistency with which the Bank has met its targets has helped establish the credibility of monetary policy as an anti-inflationary tool. This credibility is important because it serves to dampen inflationary expectations. It also guards against a take-off in inflation should the economy suffer an inflationary shock (e.g., a dramatic rise in world oil prices).

There are a number of important issues relating to the conduct of monetary policy. A restrictive policy, for instance, has its costs, most notably in the form of high interest rates, lost output and unemployment.

External forces produce their own constraints, converging to focus mainly on the value of the Canadian dollar in terms of other currencies. Exchange rate fluctuations and the depreciation of the Canadian dollar relative to its U.S. counterpart over the last year clearly demonstrate the vulnerability of Canadian policy to such outside forces as high interest rates in the United States.

Shifts in the demand for money pose considerable problems for monetary authorities. For monetary targetry to work smoothly, the relationship between the demand for money on the one hand, and nominal interest rates and income on the other, must be stable and predictable.

However, if money demand is not stable, a simple money growth rule will not be stabilizing. For instance, reductions in the demand for money can cause problems for monetary policy focused on controlling the narrow M1 money supply definition. In 1976 and 1977, a downward shift occurred as corporations took advantage of newly available cash management facilities to minimize their holdings of demand deposits. One estimate put the decline in money demand from this source at 7.9 per cent after two years.

In late 1979, with the availability of daily interest savings accounts, individuals began to cut back on their holdings of personal chequing accounts to benefit from the interest paid on the new accounts. The Bank of Canada has estimated that the growth of daily interest savings accounts has lowered money demand by about 2 per cent.

The spread of cash management services to small and medium-sized businesses has also decreased the demand for money. Yet another recent development that could lower money demand significantly was the introduction of daily interest chequing accounts by the major banks in July 1980. Since these accounts pay interest, they are not included in M1. By December 1981 they amounted to $675 million, or 2.5 per cent of M1, and are still growing rapidly.

The advent of daily interest savings and chequing accounts is of major significance for the conduct of monetary policy. In an inflationary environment with high nominal interest rates, a demand deposit bearing no interest may come to look increasingly unattractive. The new daily interest savings accounts, providing a competitive return on cash deposited even for very short periods of time, should constitute an additional incentive to minimize holdings of non-interest-paying demand deposits. With these innovations, M1 could quite easily become an increasingly less comprehensive and perhaps less reliable indicator of the transactions demand for money.

The difficulties of interpreting money demand components in the face of the ongoing process of adjustment to financial innovations, and the problem of consistency between money supply growth targets and projected nominal income growth in the medium term, underline the need to continue to monitor a wide range of indicators to assist in the conduct of monetary policy. These indicators would include the exchange rate, nominal and real interest rates, and the broader components of money demand, as well as M1.

But real interest rates would appear to be a particularly helpful supplementary indicator of the stance of monetary policy, on which much greater and more explicit reliance could be usefully placed. At present, real interest rates would seem to be higher than necessary to restrain inflation. Lower real interest rates would help in getting the recovery well under way.

Policy action needed

The general thrust of Canadian economic policies has become increasingly restrictive over the last few years. Yet inflation continues high; unemployment is at a postwar record; and government deficits, as usually measured, are high.

At some time, says the Council, this restrictiveness should be reduced. The question is when, in what form, and to what degree? Given the long lags and complex expectational forces at work, one thing is certain: if we want results a year or more from now, action will have to be taken soon.

Under the heading "Policies to combat inflation and unemployment," the Council this year has put forward 14 policy recommendations. These cover a wide range of areas of concern.

Tackling first the problem of inflation, the Council recommends that for monetary and fiscal policy, the federal government continue its anti-inflationary stance, with the Bank of Canada maintaining its control over the money supply growth rate. This includes government expenditure restraint, and deficit reduction in the medium term as the economy recovers to more normal levels of activity.

However, says the Council, with unemployment close to 12 per cent, the time has come for at least some reduction in the degree of restraint. In recommending that the federal government introduce a moderate dose of fiscal stimulus in its next budget, the Council proposes a $2 billion cut in the personal, corporate or general manufacturers' sales tax – or some combination thereof. The exact form of the cut would be a matter for public prebudget consultation.

Turning to the question of unemployment insurance, the Council notes that large increases in both employer and employee contributions could take place as early as January 1, 1983. But in view of the current difficult economic circumstances, the Council recommends that the government limit any such increases in the coming year.

Returning to the question of federal government spending and deficit reduction, the Council offers three recommendations. The first urges the government to subject new energy initiatives to the same critical scrutiny given to other new spending programs. The second arises from the view that the government should not be expected to meet its objective of deficit reduction during a recession. The Council thus recommends that the federal government not take further action to reduce the deficit until the economic situation improves and that in the meantime it accept, at the very least, the deficit increases resulting from automatic stabilizers. However, says the Council, the deficit must remain a source of concern.

The third recommendation under this heading concerns lower international oil prices and their effect on the domestic oil price and hence on government revenues. Since the domestic wellhead price has been set to rise gradually to a maximum of 75 per cent of world prices – and is thus now facing lower and slower increases – the Council urges the federal government and the governments of the oil producing provinces "to address specifically, at an early date, the implications of lower international oil prices for domestic wellhead oil prices resulting from the 75 per cent cap."

"We have to face short-term realities, but at the same time we must maintain a sound medium- and long-term perspective. . . Since there are long lags in the impact of policy on the economy, it is necessary to act now. . ."

Monetary policy and high interest rates are the subject of two more Council recommendations. In the first, given the narrow definition of the money supply and its increasing unreliability as the sole indicator of money demand, the Council recommends that the Bank of Canada put more explicit reliance on real short-term interest rates as a supplementary indicator of the stance of monetary policy. In addition, the Council recommends that, in so far as is consistent with combatting inflation and as international circumstances permit, the Bank of Canada try to bring current real interest rates down to more normal levels and that interest rates be allowed to decline with inflation in the medium term.

Another recommendation concerns increased Canadian ownership of the oil and gas industry, and the disruptive effect the wave of government-encouraged takeovers of foreign-owned oil companies has had on the Canadian dollar. Here the Council recommends care in proceeding with Canadianization so that it does not become a source of instability for the economy.

In the June 1982 budget, the government announced a program of mandatory 6 and 5 per cent wage guidelines for the federal public sector, together with a call for comparable voluntary restraint in the private sector. If the private sector respects these guidelines, says the Council, it should be possible to bring inflation down more quickly and at a lower cost in lost output and employment.

While the Council has some reservations about the specifics of the restraint program, it believes it is important that everyone understand the basic message underlying the government's strategy. It is that inflation will slow down only if everyone exercises restraint in pressing their income claims. This leads the Council to recommend that provincial governments, business and labour cooperate fully with the government in the effort to bring down inflation.

If inflation doesn't yield to the current strategy, the government will come under pressure to take tougher action. Wage and price controls, says the Council, are the obvious alternative. However, they entail very high economic and social costs and could well engender bitter conflicts among the federal government, labour and business. As a result, the Council recommends that controls be used only as a last resort if wage inflation spirals dangerously upward.

The Council's three remaining recommendations are:

- that the government initiate a more formal process of public prebudget consultations on the broad fiscal strategy and specific tax changes under consideration;
- that business tax legislation be reexamined by governments with a view to ensuring that taxes are based on real rather than nominal profits, and that existing business tax incentives be reviewed in the light of such a change; and
- that the indexation to the consumer price index of the personal income tax and transfer programs be resumed on schedule and that no further modifications to indexing be made.

Regional disparities: ongoing dilemma

Regional disparities remain very serious. Finding a job is far harder in some regions than in others, in good times or bad. Chart 1 shows that unemployment is persistently higher than the national average in the Atlantic region, Quebec and B.C. Indeed, even a "boom" in the Atlantic region is only about as good as a recession in Ontario. Chart 2 shows that what you earn when you do have a job also varies a lot by region. It is much less than average in the Atlantic region, and much more in Ontario. While some lessening of earning disparities shows in Chart 2, none appears in the rather more serious unemployment disparities of Chart 1.

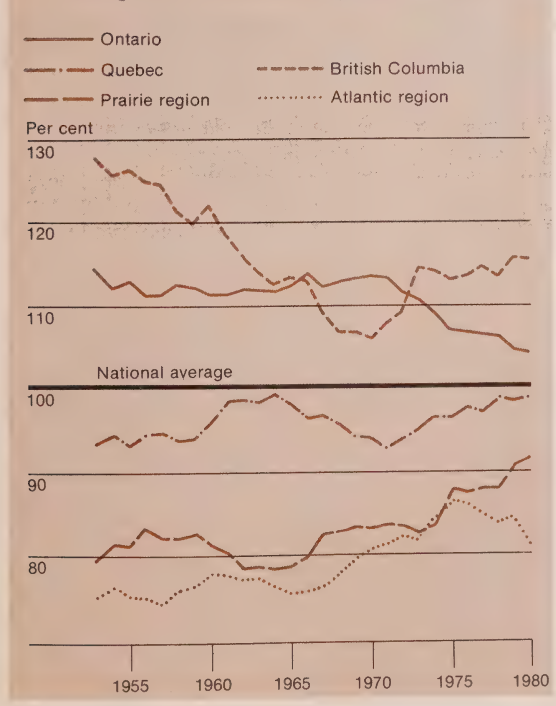
Many would argue that, despite evidence such as that in Charts 1 and 2, disparities are not a cause for concern. Either they are a statistical illusion or they show only that some people prefer the lifestyle in a region even when employment or income opportunities are poor there. The Economic Council carefully assessed such arguments in 1977, when the first printing was made of a Council report on regional disparities, called *Living Together*. This summer *Living Together* went into a fourth printing, having sold several thousand copies to date. Charts 1 and 2 are updates of charts appearing in the report. The conclusion reached in 1977, on whether disparities were a cause for concern, was that ". . . we are impressed that no amount of juggling with statistics can lead any reasonable person to deny that economic well-being is sharply affected by the region in which one happens to be born or brought up. In short, disparities are real."

Living Together deals with much more than discussing whether disparities are real and whether they matter. It also examines the goals that regional policy ought to have, and conflicts between these and other worthy social goals. Particularly important is a discussion of the relative weight to give to government action and individual initiative (through migration) in solving regional disparity problems. A chapter on economic theories of regional disparities is included, to set the stage for the Council's own analysis. This analysis covers: measures of disparities; sources of regional differences in productivity; the merits of regionally differentiated stabilization policy; the part played by urban structure in regional economic development; assessment of the role of the Department of Regional Economic Expansion; and discussion of other policies relevant to disparities. The report closes with sixteen recommendations.

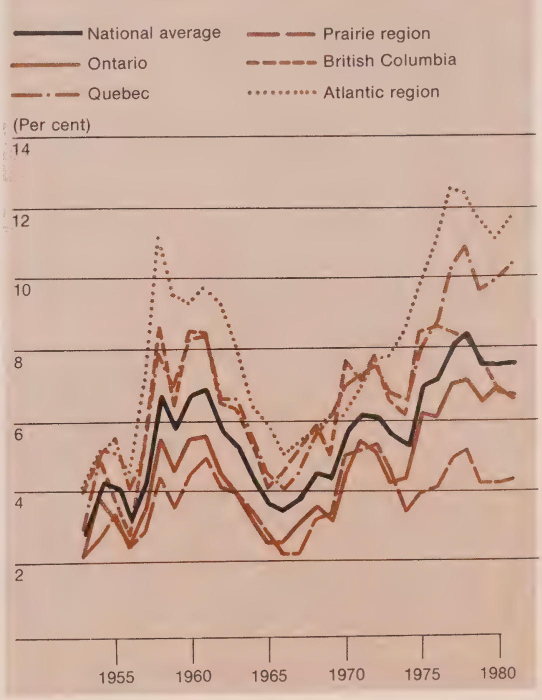
The book remains relevant today for four reasons: it insists the problems are real, and shows why; it makes recommendations that still might help, if vigorously implemented; it analyses and refutes some faulty ideas about causes of disparities, reducing the risk of misdirected policies; and it makes some progress in understanding the causes of the problems. Continuing sales of the report seem to be heartening evidence that these are worthwhile contributions.

Living Together: A Study of Regional Disparities (EC22-54/1977E; $7.50 in Canada, $9.00 elsewhere).

How wages and salaries vary among regions



How unemployment varies among regions



Council takes a look at energy

The Economic Council of Canada is tackling the controversial issues of energy pricing, supplies, and investment in a sweeping new study.

Economist Lawrence Copithorne, who heads the Council's energy group, says he expects the study will play an important part in the debate leading to the next set of federal-provincial energy agreements in 1986. Target date for publication is mid-1984.

The energy review, he says, will attempt a more comprehensive look at energy resources than the National Energy Program of 1980, which concentrated mostly on oil and gas. For example, the vital role of hydro-electricity in Canadian energy supplies and pricing will get a thorough examination.

"We are interested in policies that will reduce the cost of energy to Canadians and increase the security of supply," says Copithorne.

It is with that in mind that the energy group will evaluate such policies as provincial pricing of electricity, development of frontier oil and gas, and some of the consequences of Canadianization of foreign-owned oil and gas holdings.

Copithorne says that the group will concentrate on the economic consequences of current energy policies. It will also dissect the recent stormy history of energy policy making in Canada to see how policies and federal-provincial agreements are formed. The Council hopes to show what impact this has on the energy picture.

The Council expects its wide-ranging examination of the energy industry will cast fresh light and produce useful proposals for the energy debate in the mid-1980s. In a recent interview with *Au Courant*, Copithorne elaborated on the Council's plans.

Au Courant: *Why do we need another study on energy? Don't we have enough already?*

Copithorne: I think there is an important role for an Economic Council study at the current time. An economic study is worthwhile for two reasons: first, in terms of the historical background; and secondly, there is a set of explicit reasons that the Council has for wanting to do the study at the current time, certain aspirations it hopes to fulfil.

If we look at the historical issue, we find that energy policy has gradually, in the past couple of decades, become more and more important in Canadian economic policy generally, not merely because of the OPEC price hikes of 1973 and 1979, or because the federal government has introduced the 1980 National Energy Program, but also because of a number of underlying factors in the economy that inevitably make energy policy issues more important.

In North America, we find that, even prior to the OPEC crisis of 1973, there was a fundamental change in the economy whereby North America became much more dependent on the rest of the world for its oil supplies. The fact that it became a stronger net oil importer has set in train a number of forces that impact not only on the oil and gas industry but on electricity as well, since it is a substitute in competition with oil and gas.

Now in addition, energy resources are not evenly distributed across the country. So any impending change in the long-run price of energy for Canadians would have long-lasting ramifications for the provinces.

If we turn to the current reasons for the study, there is a much greater need for public understanding of energy policy now than ever before, because there is much more government involvement now in the Canadian energy market – and governments have a strong influence on prices and on energy investment. People need to be much more informed about the economic consequences of setting prices and investment than in the past, if they're going to avoid the kind of surpluses and shortages which inevitably result in prices and export policies being incorrectly set.

Now, apart from that market question, relatively little is known about energy supplies and economic incentives. We know more about the responsiveness of energy demand to changes in prices, but we don't know as much about how changes in energy prices and netbacks affect the exploration for new oil and gas reserves, or even how they can affect production from existing oil and gas reserves. There is explicit emphasis on responsiveness of supply in our study.

In addition, energy policy has become intertwined with economic development policy, fiscal policy, regional economic disparity policy, and so on. It may be that some unraveling of energy policy from these other interests would be desirable. The Council will want to question the extent to which energy policy is being used to solve so many problems.

Now there are also some shortcomings in the way energy policy is formulated, not just the policy itself but the mechanism by which this policy is devised. The process used recently may not have been the ideal one in this respect. So the Council is interested in not only what constitutes good policy but also how it is made.

And finally, there are some major negotiations that have to take place some months after the Economic Council's energy document comes out. The Council hopes to have an input into those negotiations, and to have a voice in the way in which these policies are negotiated and even the policies themselves.

Au Courant: *You have mentioned some of the problems you will be looking at.*

National Film Board of Canada

Hydro-electric project

Can you elaborate on some of the issues you will be studying? Can you also mention some of the projects you plan to launch as part of the study?
Copithorne: I think we should first mention that there is a set of orientations that we would like to see in the research program. One is that we are interested in finding ways of taking advantage of the economic opportunity afforded by our energy resources. And we are interested in reducing the cost of energy produced and the risk of producing that energy.

As far as the individual topics are concerned, you could categorize them in many different ways. I think people will find that we have directly or indirectly addressed most of the questions that are of interest in the energy area, but we have grouped our research projects under about half a dozen different broad topics.

The first is what I call a search for common ground among the energy policies of the federal and provincial governments. The second is the study of hydrocarbon supply, which is broken down into the economic development of conventional oil and gas exploration, conventional oil and gas production, enhanced oil recovery, and frontier oil and gas production.

National Film Board of Canada

Oil-drilling site

Thirdly, we have the study of electricity supply. Fourthly, there is a study of regional energy demands. Fifthly, there is some study of energy conservation questions.

Sixth, there will be a study of macroeconomic implications of energy policy alternatives. Regional economic considerations will be dealt with.
Au Courant: *Will you be looking at the National Energy Program in any detail? Will you be dealing with some of the issues raised by that policy?*
Copithorne: Yes, we will be dealing with the issues of the National Energy Program, but we don't intend to single out that federal program as a special study in itself. Issues of public energy policy crop up in all the various topics that I have mentioned to you. So we will definitely deal with virtually all the issues that you find in the NEP.

But our study will be broader in so far as we will have a more balanced emphasis on all energy sources, including electricity, than the National Energy Program, which is predominantly an oil and gas policy document. It will be narrower in the sense that it will focus more closely on economic issues and the implications of the various objectives of energy policy.
Au Courant: *One of the issues that you mentioned was the question of electricity and provincial pricing of electricity. Are you doing something about the way pricing affects the allocation of energy generally?*
Copithorne: It is important to point out that the Economic Council will not be trying to second-guess the energy producers as to what constitutes the best set of investments in energy. Our work will concentrate on economic *strategies* that influence the economic allocation of these resources. The strategy that you use in setting prices is terribly important in influencing the amount of energy that will be produced and demanded, and whether or not you will be producing shortages or surpluses.

So, we will be studying energy supply and demand to see how different pricing policies and different export policies impact on production and demand. Our objective, of course, is to find the policy that will help markets function efficiently even though pricing and some of the allocation is being done by government decree or government action.
Au Courant: *Consumers are mostly interested in how much they are going to have to pay for energy. Will you be looking at the price implications over coming years of how energy is used in Canada and what that might mean for the consumer?*
Copithorne: Price policy is going to be a major consideration of the study, from the production level right through to the consumer level. We will definitely be looking at the implications of different economic strategies for the cost of energy to the consumer.
Au Courant: *Can you indicate what kind of a contribution you think the Council study will make to the public debate leading up to renewal of the energy agreements with the provinces in 1986?*
Copithorne: There are a number of subtle ways in which Council reports have their effect. In the recent study of the Newfoundland economy, which we completed in 1980, and in the current study, much of the impact of Council research comes from consultations with people at the research and policy making levels. By the time the report is published many of these people have already learned something in the course of helping us with our research program, and provincial governments, for example, may be using some of our ideas.

For the public at large, the document and its supporting studies will be available for discussion in public forums and in universities. I think we can provide some original economic information on, for example, the responsiveness of oil and gas supplies to different taxation schemes, or on the effectiveness of some of the government energy conservation programs. The Council's work is put out not only in the main report but also in supporting studies, which provide a lot more technical detail.
Au Courant: *Is the Council planning to have people operating outside Ottawa for periods of time on this energy study?*
Copithorne: In the case of the Newfoundland report and the recent Western study, there has been a formal Economic Council office established outside Ottawa to carry out part of the research. In the case of the energy study, there is considerable consultation going on with the electrical utilities, with various provincial governments, and with certain universities. That results in some researchers working in Calgary, and possibly other Canadian cities, for some weeks at a time. In addition, there will be a fair amount of short-term consultation. But we won't have a formal office outside Ottawa.

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Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

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The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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au courant

Economic Council of Canada

Volume 3, No. 3, 1982

Governments and financial markets

The deficit picture

Why Canadians migrate

Province-building in a resource boom

PUBLICATIONS

New Council Report

Intervention and Efficiency: A Study of Government Credit and Credit Guarantees to the Private Sector (EC22-111/1982E; $9.95 in Canada, $11.95 elsewhere).

Government intervention in Canada's financial markets covers a very broad spectrum. In this recently released report, the Council looks at measures governments have taken to assist the private sector by means of various financial instruments. *Intervention and Efficiency* is available in bookstores across the country and may also be ordered from the Canadian Government Publishing Centre (see below).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research study has been published since the last issue of *Au Courant*.

Internal Migration and Fiscal Structure: An Econometric Study of Interprovincial Migration in Canada, *by Stanley Winer and Denis Gauthier* (EC22-109/1982E; $8.95 in Canada, $10.75 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 219 "The Economic Development of Western Canada: An Historical Overview," *by D. Owram.*

No. 220 "Energy Price Increases, Economic Rents, and Industrial Structure in a Small Regional Economy," *by K. H. Norrie and M. B. Percy.*

Reprints

The following reports have been reprinted, and can be ordered according to information below:

Newfoundland: From Dependency to Self-Reliance (EC22-85/1980E; $10.95 in Canada; $13.15 elsewhere).

In Short Supply: Jobs and Skills in the 1980s (EC22-108/1982E; $7.95 in Canada, $9.55 elsewhere).

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A OS9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion papers and *Au Courant* are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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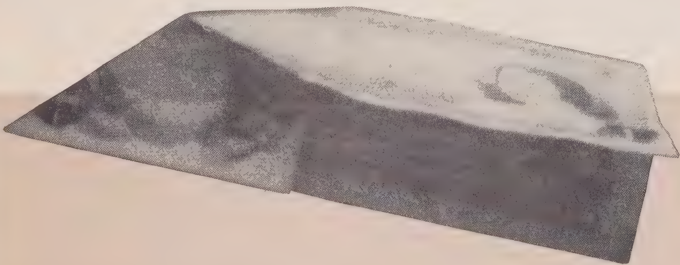
au courant

Volume 3, No. 3 1982

Intervention and Efficiency

Highlights from the Council's report on financial markets



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Western history shaped by resources

Resource boom, resource bust: the same old tune, played on down the years in Canada's four western provinces.

How Westerners responded to this recurring theme over time – moving from contentment with their resource-based economy, through ambivalence towards it, to a determination to escape the resource trap once and for all via industrialization – is the subject of a new paper, written for the Council's western project. (*Au Courant*, Vol. 3, No. 1.)

Western history divides into five distinct phases, says University of Alberta author D. Owram, running from 1870 to 1960 – with a sixth trend apparent in recent years. Aside from the first period, when the main economic activity was the absorption of immigrants, the story of western economic development unfolds in terms of its primary resources: wheat, timber, fishing, minerals and, latterly, oil and natural gas.

In fact from very early on, the West was viewed as Canada's great agricultural region, whose exports would both support, and be supported by, eastern manufacturing. The concept of an east-west transcontinental economy, fostered by the federal government through the building of railroads, encouragement of settlement, and introduction of protective tariffs, formed the basis of the so-called National Policy, which remained a focus of Canadian development for many years.

That policy began when the West was settled, and was firmly entrenched during the second period of development, the Laurier boom years (1898-1912). Western settlement flourished, urban centres prospered, railways were built. At the same time the Prairie West emerged as a major producer of wheat, which rapidly became one of Canada's major exports. It's worth noting, Owram observes, that Westerners of the time focused on improving their agricultural position, rather than on diversifying their economy.

The third phase – 1912-29 – marked the maturing of the wheat economy. It was also a turbulent economic period, as recession, wartime boom, and postwar recession resulted in marked swings in economic activity. Tough times in the West led to explicit expressions of western grievance in the form of political protest and the establishment of very powerful, if short-lived, regional political parties. Westerners still, however, viewed agriculture as their economic mainstay.

But the Great Depression of 1929-39 (the fourth phase in western history) brought home to them the danger of relying on a few major export resources for economic survival. The depression hit the West with particular force as, by cruel coincidence, collapse of the international wheat market was paralleled by a series of years of disastrous weather. Realized net farm income plunged from $363 million in 1929 to *minus* $10.7 million in 1931, with devastating results for the entire regional economy. Westerners blamed the central government for not easing their burden, and feelings of alienation once again sought expression in new political parties (such as Social Credit) and radical solutions.

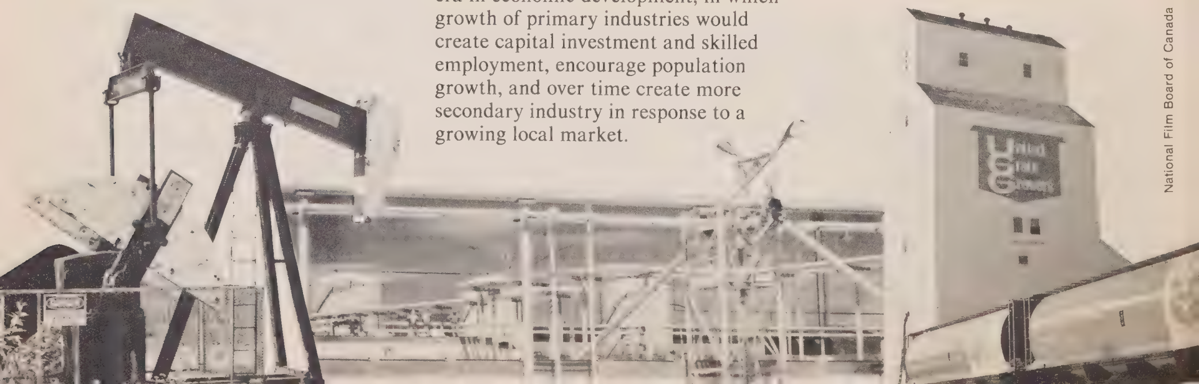
The war and postwar years (1940-60) heralded the beginning of a new and especially complex period in western development. Strong growth in Canadian manufacturing affected the West as well as the East, as regions dealing in areas complementary to the industrial boom (British Columbia and, after 1947, Alberta) did well, while agriculture declined in importance. Westerners began to visualize a new era in economic development, in which growth of primary industries would create capital investment and skilled employment, encourage population growth, and over time create more secondary industry in response to a growing local market.

The most dramatic force in western economic development in recent years, Owram says, was triggered by the sharp rise in oil prices during the 1970s, an event which brought new prosperity to the three oil-producing provinces, most notably Alberta.

Whether this new boom will change the face of the West or is merely another phase in the boom-bust cycle is still uncertain, Owram says. But it has served to focus attention on some questions central to western economic development in the future, key among them the issue of economic structure. Since the catastrophe of the 1930s, the concept of diversification, particularly in the form of industrialization, has dominated western thought. Recent prosperity has only intensified that concern, as Westerners seek economic security in the face of the inevitable day when the oil runs out. This determination to put an end to the boom-bust syndrome once and for all helps explain the motives behind some provincial policies, Owram says – such as those designed to direct resource revenues into the hands of government, or the "province-building" variety, providing incentives to attract industry and people to western regions.

One question Westerners should be asking themselves now, in the author's view, is whether forced industrialization is necessary or even desirable. "The historical patterns to date," he concludes, "indicate that man's efforts to plan the development of the West have proved less significant than the deeply rooted factors of geography, climate, and demography. Any policies in the future which ignore these factors will inevitably yield disappointing results."

"The Economic Development of Western Canada: An Historical Overview," by D. Owram. Discussion Paper No. 219.

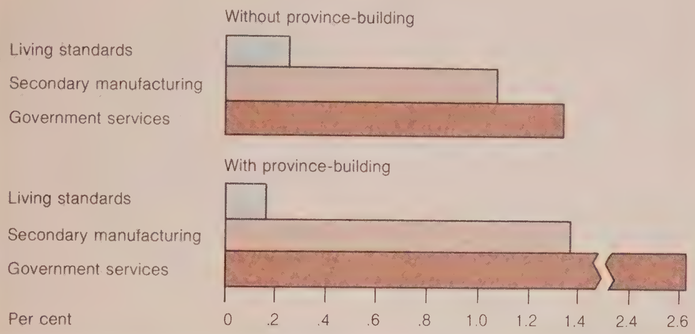


National Film Board of Canada

Coping with a resource boom

Impact of province-building strategies in a resource boom

Percentage increase for a 1% resource price increase.



Well-meaning government policies in the energy-producing provinces probably mean residents there aren't as well-off as they could be, says a recent Economic Council paper.

Analysis of the impact of an energy price increase on regional economic development leads University of Alberta economists K. H. Norrie and M. B. Percy to conclude that "much of the economic rent produced by the western energy boom ends up dissipated through resource inefficiencies and excessive in-migration." Were provincial governments to take more of a hands-off approach to province-building, though, consumers would be better off.

The recent energy boom in the West has raised a host of questions about subsequent economic development there, the authors say – on the likelihood of greater industrialization, for example, on the role provincial governments should be playing in promoting that objective, and on the effect of deliberate province-building policies, such as lowering rates of corporate income tax, subsidizing feedstock prices, or cutting the cost of government services.

In search of answers, Norrie and Percy develop a new economic model, combining many characteristics of earlier approaches and adding some new elements – one being the provision of a specific role for government taxation and expenditure policies, in order to study their particular impact.

With the model, the authors develop two different scenarios to test out the effect of an increase in energy prices on six sectors: non-renewable primary industries, particularly oil and natural gas; renewable primary industries, such as agriculture and forestry; resource-processing manufacturing; secondary manufacturing; non-tradable services, such as urban housing; and regional government activities.

Three separate time-spans are included in each test – a short-run period when no in-migration has taken place, a long-run period with in-migration, but where the region does not have to balance its trade with other regions, and a long-run period building in that requirement.

The first scenario shows what happens if resource revenues from an energy price increase remain in the hands of the private sector – as was the case with earlier western resource booms – so that a regional government must continue to meet expenses by levying taxes.

The second sets out an alternative situation, approximating current conditions in Alberta and Saskatchewan, where the government collects some of the resource revenues by means of taxes and royalties, and uses those funds to provide subsidized services to the public.

A comparison of results from the two scenarios has interesting implications for Canada's energy-producing provinces. In the first instance, the chain of events set in motion by the price increase culminates over the short term in expansion of the government and service sectors (particularly the former) and some decline in the remaining four sectors. Long-term growth is much greater, but concentrated in the energy, government and service sectors, as opposed to manufacturing. This result, the authors say, implies that a regional economy does not become more industrialized over time as the result of a resource boom, but rather more specialized in resource production and the non-traded sectors. The authors caution, though, that this finding does not hold if production becomes much more efficient as population density grows.

The second scenario indicates that when government province-building policies are brought into play, short-term growth is slower everywhere but in government. That sector, though, expands even faster than before – at the expense of the other sectors – to keep up with increasing demand for its cheaper services.

Although most people are not better off in the short run under these conditions, two groups stand to do very well indeed, Norrie and Percy say – the civil service, and urban service industries, such as land developers or consulting firms – and both are therefore likely to be keen supporters of this government strategy.

In the long term, without balance of trade requirements, production increases in every sector, thanks to the inflow of labour and capital, attracted by the new policies. Surprisingly, there is new investment even in sectors where income fell in the short run. Landowners do well, and workers benefit, too, as wage gains keep slightly ahead of inflation.

So a province-building strategy does appear to stimulate growth over time. But ironically, the province as a whole is worse off than it would have been otherwise, the authors say. Fast as gross national product (GNP) grows, the population outstrips it, so resource-derived benefits must be shared among increasing numbers of residents. The net result is a slower rise in per capita income than would have been the case in the policies' absence.

"Energy Price Increases, Economic Rents, and Industrial Structure in a Small Regional Economy," by K. H. Norrie and M. B. Percy. Discussion Paper No. 220.

Probing the mysteries of taxation

"In this world nothing is certain but death and taxes," Benjamin Franklin once remarked, an observation most people would find just as relevant today, nearly two centuries later. There's no denying that the tax system remains an indisputable fact of life, affecting virtually everybody's pocketbook in one way or another – either directly, through payment of personal or corporate income tax, property taxes or capital gains tax, for example; or indirectly through such devices as customs duties, excise taxes, or the federal manufacturer's sales tax.

Despite its almost universal impact, though, the tax system is probably something of a mystery to many taxpayers. Most people are aware that taxes help finance the cost of government services, and bring about a reallocation of income and wealth, with inevitable repercussions for the economy. But fewer taxpayers have a clear idea of the intricate workings of Canada's tax system, or of the precise nature of its economic impact. Even the experts have difficulty deciding exactly how taxation affects distribution of the country's resources – yet their findings can have a large bearing on the government policymaking process.

So a recent seminar held at the Economic Council proved both interesting and illuminating. Professor John Whalley, from the economics department of the University of Western Ontario, provided an up-to-date review of the complex issue of tax treatment of capital income – that is, income resulting from the investment of capital, received in the form of dividends, interest, royalties, or rent.

Taxation problems and the connection between taxation and inflation are subjects of ongoing interest to the Council. Over the past couple of years, it has published a study on real rates of return to capital, has sponsored a conference on inflation-induced distortions in financial reporting and taxation, and has published the proceedings of that conference (*Au Courant*, Vol. 3, No. 1.) The Council is contemplating further research in this area in the future.

A pioneer in the international use of large-scale economic models to examine tax systems, and author of several papers explaining recent findings in this field, Professor Whalley discussed the pros and cons of the principal theories – both traditional and radically new – on the workings of the tax system.

Two key concerns arise from any analysis of capital income taxation, he said. First, what does it do to the allocation of resources? And secondly, does it achieve a redistribution of income from the well-off to the needy, as its designers intended?

Dealing first with the question of efficiency, Whalley noted that no tax system scores full marks in this respect. Some wasting of resources, or "tax distortions" are inevitable when income and wealth are channeled in new directions. But until recently most experts believed that these distortions cost the economy very little – probably less than 1 per cent of gross national product (GNP) a year. Now a new school of thought is challenging that assumption, arguing that, in fact, costs to society run significantly higher – as much as 6 to 9 per cent of GNP, in the opinion of some analysts.

More important, these losses appear even larger when they are expressed as a percentage of the extra revenue raised from taxes. Some experts believe, in fact, that the marginal efficiency loss from an extra dollar of U.S. and Canadian taxation may be as high as 75 to 100 per cent.

A number of the more glaring inefficiencies in the present system, Whalley said, include "double" taxation of savings, whereby individuals are taxed once on their original incomes, and once again on any returns they receive by saving. If they invest any portion of their incomes, moreover, they are required to pay a corporate tax, a capital gains tax, or both, on their returns. Another form of distortion lies in the tax treatment of homeowners, who pay neither taxes on income resulting from that investment, nor capital gains tax on that asset.

Conventional thinking on the second major concern about the tax system – whether it succeeds in redistributing resources from rich to poor – has also been carefully scrutinized in recent days, the economics professor said. Now some analysts are taking issue with the traditional view which holds that the system doesn't have much impact on the distribution of income. Evidence now suggests, they argue, that in fact it may be markedly progressive. One point they make in this respect, Whalley said, is that the old school didn't reckon with the effect of inflation. (The complex interaction between inflation and taxation, particularly the question of inflation indexing, is currently occupying centre stage in taxation discussions.)

Whalley's own opinion in this regard is that other factors, which haven't been taken into account so far, may mean that the tax system favours the rich.

Caution should be the keynote in any appraisal of the distributional effects of the tax system, Whalley concluded, warning that it is dangerous to talk about a "consensus" in this field. Opinions are in a constant state of flux, and the issues are complex and confusing in the extreme. Observers should try to keep a broad picture of the tax system and its interactions in mind at all times, without losing sight of central philosophical principles.

Government intervention in Canada's financial markets covers a very broad spectrum. In its recently released report, ***Intervention and Efficiency: A Study of Government Credit and Credit Guarantees to the Private Sector,*** *the Council looks at measures designed to assist the private sector through various financial instruments. Material based on the report is featured on the next six pages.*

Canada's private financial institutions influence our daily lives in many ways. Here, at least once a month, we deposit or cash our cheques and withdraw the money we need for our everyday expenses. Here too we borrow the money to buy a house or car.

But it is also here that major transactions occur, such as those affecting the cost and uses of money, the location and scope of industrial development projects, the value of the Canadian dollar – in effect, the rate and direction of the country's economic growth and the welfare of its citizens.

In addition to such private institutions as banks, credit unions, and trust and insurance companies, there is another group of financial institutions that plays an important role in our economy. Every day, farmers, business people, exporters, and prospective homeowners turn to a variety of government institutions for financial assistance.

Whether public or private, financial institutions play a fundamental role in our economy by transferring funds between lenders and borrowers, and by the intermediation of risk.

A variety of financial instruments is used. Deposits and investment certificates gather savings that are placed chiefly through loans and investments in bonds, debentures, and stocks. In the case of loan guarantees and credit insurance, the institution does not transfer funds but instead assumes the risks involved in such a transfer.

Government is active in providing loans or equity finance and in guaranteeing or insuring private credit transactions. In the report, the Council considers only that part of government financial intermediation which at the same time provides assistance to the private sector as a way of implementing general government policies.

The decision to provide assistance through financial instruments is the result of a two-step selection process: first, the choice of financial markets as the scene of action and, second, the choice of a financial instrument as the tool for intervention.

In the report, the Council assesses the use of a specific category of policy instruments – loans, loan guarantees, and limited equity participation – in the pursuit of general government objectives. The Council has attempted to determine to what extent government credit and credit guarantees to the private sector contribute to the achievement of the government objectives of economic growth, social progress, resource reallocation, income redistribution, and economic stabilization.

Most government assistance in recent times has been provided through programs, and is usually intended to solve problems shared by a number of individuals or firms. Loans from the Federal Business Development Bank and credit insurance provided by the Export Development Corporation are examples of this form of financial aid. Ad hoc assistance, on the other hand, meets a specific need at a specific moment, in response to a demand for which better solutions seem hard to find (e.g., guarantees to the Chrysler Corporation and Massey-Ferguson).

The report concentrates on credit and guarantees to four sectors of economic activity that have received more than 96 per cent of total assistance outstanding: business, exports, housing, and farming. Of these, housing has received by far the largest share.

As of March 31, 1980, some 42 agencies and boards offered financial assistance to the four major sectors. Their loans and investments outstanding amounted to $17.5 billion, while guarantees and insurance totaled $27.5 billion.

The number of Crown corporations and government boards with primary responsibility for the four sectors has grown steadily over the last 20 years, from 17 in 1960 to 42 in 1980. Despite this increase, the growth rate for total assistance to the private sector has fallen off in the last few years.

While this decline may to some extent be attributed to the budget restrictions facing government in recent years, the increase in the number of financing agencies demonstrates that the determination to participate in private sector financing has not diminished.

This determination is reflected in the proportion of the public debt attributable to the financing that governments have accorded to the four sectors. For example, about 25 per cent of the federal government's long-term debt outstanding as of March 31, 1980, 57 per cent of that of the government of Alberta, and 42 per cent of that of the British Columbia government were attributable to such financing.

Government loans and loan guarantees incorporate subsidies, which in fiscal 1978/79 amounted to between $188 million and $906 million, depending on whether accounting methods are used or whether social opportunity costs are taken into account as well. The $906 million was distributed as follows: $176 million to business, $118 million to exports, $345 million to housing, and $267 million to agriculture.

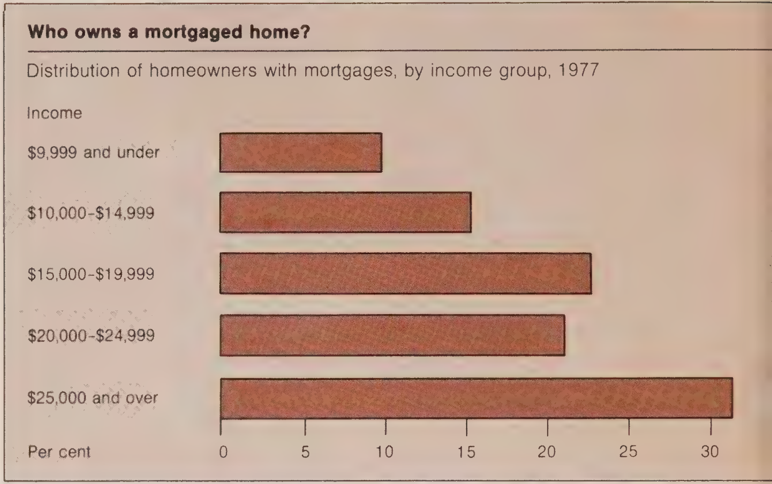
It is worth noting that loans, investments, and guarantees are instruments specific to a firm or individual, whereas taxes, regulations, and tariffs are market-specific instruments in the sense that they affect equally all firms or individuals active in one market.

The report found that, when there are some malfunctions in financial markets, the recourse to financial instruments contributes to the achievement of government objectives. In the absence of such malfunctions, the results are of a more mixed nature and the appropriateness of the recourse to financial instruments can be assessed only on a case-by-case basis.

HOW GOVERNMENTS FINANCE HOUSING

Twenty-four million Canadians live in approximately 8 million dwellings, of which almost two-thirds are owner-occupied; 56 per cent of these owners have a mortgage on their home. Housing construction represents between 4 and 6 per cent of gross national product (GNP) and increases Canada's housing stock by 1.9 to 3.7 per cent annually. Gross rents equal about 9 per cent of GNP.

Given the importance of Canada's housing industry, it's not surprising to find that the federal and provincial governments exert considerable influence over the construction, use, and financing of residential dwellings. There are more than 50 government finance programs in Canada, administered by 12 federal or provincial agencies – the largest of which, by far, is the Canada Mortgage and Housing Corporation (CMHC). Mortgage insurance provided under the National Housing Act (NHA) accounts for more than 80 per cent of public guarantees in force extended to the four sectors studied in the report.



In its consideration of improvements needed in the mortgage loan market, the Council notes that governments have been deeply concerned with the affordability of homeownership. According to CMHC estimates, 42 per cent of housing needs in Canada were not met in 1979 simply because housing was unaffordable at prevailing prices based on the criterion of a maximum debt-service ratio of 30 per cent (the monthly charge, including property taxes, relative to gross income).

The interest rate on a conventional fixed-payments mortgage loan incorporates, among other things, the rate of inflation expected during the life of the loan. Any adjustment made to the interest rate to account for inflation at the time of mortgage renewal will therefore result in an increase (or decrease) in the monthly payment.

If the interest rate is 7 per cent during a period of price stability, it will rise to approximately 17.7 per cent when inflation is expected to average 10 per cent. This represents a 153 per cent increase, while the borrower's income rises on average only 10 per cent annually. This discrepancy makes the purchase of a house an unaffordable proposition, at least during the first years, for potential buyers who in any case would spend a large proportion of their income on housing.

The long-term mortgage is disappearing and, says the Council, this lack of long-term loans poses a serious problem. It creates uncertainty for homeowners and the housing industry and works against an effective government housing policy. The revival of a long-term mortgage market would be a first step in the realization of the government's social goals of homeownership, quality of the housing stock and stabilization of the construction industry.

With the burden of mortgage payments increasing over the past few years, says the Council, new mortgage lending instruments must be found in order to reduce this burden and increase access to homeownership. A promising possibility in this area is the "indexed" mortgage (see accompanying article).

Because of the taxation issues arising from the fact that lenders receive cash payment corresponding only to a real rate of interest, the Council recommends that governments promote introduction of the indexed mortgage for sale to tax-exempt financial institutions such as registered pension funds and retirement savings plans.

WHAT IS AN IN

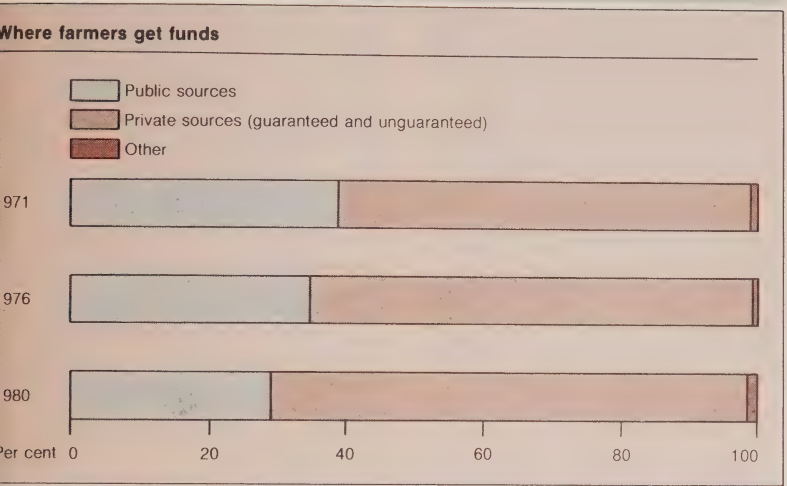
Proposals for financial instruments such the indexed mortgage have been suggested the behaviour of house buyers and vendors the last few years, and by a need to revive l term financing.

In a standard mortgage agreement, the c tor lends the borrower a given sum at a non interest rate (real rate plus inflation) which incorporates a premium for the expected ra inflation, for the risk of default on the loan, for the risk that the rate of inflation will tu out to be higher than expected.

The borrower undertakes to make month payments covering interest charges, amorti tion of the principal, and property taxes (if included) over a pre-established amortizati period. Monthly payments are usually fixed except for variations in property taxes, and outstanding balance decreases with each pa ment. Adjustment to inflation is made thro the interest rate charged, and is thus reflect in the size of the monthly payments.

In the case of an indexed mortgage, the p ties agree on a real rate of interest that will fixed for the duration of the loan. Adaptati inflation is made by adjusting the balance o standing in accordance with an index reflec the rate of inflation, such as the consumer p index (CPI). The adjustment can be made monthly or annually, and monthly payment will increase (or decrease) as the borrower pay a real rate of interest on the larger (or smaller) amount outstanding.

. . AND FARMING



ED MORTGAGE?

ndexed mortgages can facilitate access to sing without the need to subsidize first-time ers and present owners who must refinance ir mortgage loans at high interest rates. ey would also provide at least a partial solu- to cash flow problems experienced by own- of rental properties.

he indexed mortgage is proposed for use by ers of new and existing houses, for first-time repeat buyers, for both ownership and stment, and for refinancing. In this respect, proposal differs from previous ones; it also ers in that it doesn't entail tax exemptions or sidies.

ndexed mortgages present some risk, ause the borrower's income or the value of property may not increase as fast as infla- . This risk, however, is not peculiar to exed loans. Real incomes and property val- can also fall during a period of price stabil- and default rates may be higher in situa- s when prices rise moderately, in parison with periods of more rapid price eases. A risk of this sort can be reduced by ore careful qualification of borrowers and perty appraisal, regardless of the type of ncing selected.

Risks can also be reduced by a judicious ice of indexes for loans taken out by differ- classes of borrowers and for different uses of ds. The particular form the Council recom- nds for the introduction of indexed loans ws some latitude in the choice of an index.

The 1981 Census counted 318,361 farm operations in Canada – 34 per cent fewer than in 1961. The average size of farms, however, increased by almost 50 per cent over the same period. In addition, there has been an extensive substitution of capital for labour, with considerable repercussions on the financing of farming operations.

Over the past 20 years, the financial needs of Canadian farmers have grown at a rapid pace. During the same period, the role of the private sector in farm financing has grown substantially.

Total farm credit outstanding amounted to $16.6 billion in 1980. About 70 per cent of this amount came from the private sector, with almost 10 per cent of it covered by a government guarantee; the remaining 30 per cent was provided through direct government loans. In 1980, there were four boards and seven agencies at the federal and provincial levels offering financial assistance to farmers.

The terms and conditions of government financial assistance to farmers are more generous than those offered by private lenders. They represent an acknowledgment that there are difficulties the private sector can't resolve.

The most serious of these difficulties is an insufficient cash flow to cover loan payments. Farm production involves the use of land. But the return on land comes mainly in the form of a capital gain that the farmer does not receive in cash – at least not until he sells the farm.

Thus a large part of the farmer's income is not available to make payments on a relatively large debt at a 15 to 17 per cent annual rate of interest – and hence the cash flow problem. With inflation at 12 per cent, the farmer's nominal return on land may be 17 per cent but he would receive 5 per cent or less in cash, while lenders demand interest at 17 per cent or more. In addition, the absence of an adapted long-term financing instrument has seriously aggravated farm finance problems.

Some of these difficulties, says the Council, could be resolved by the introduction of a new financial instrument, the indexed farm mortgage. This would be similar to the residential indexed mortgage proposed for the housing sector (see accompanying article).

Like its housing counterpart, the indexed farm mortgage poses some problems. But this new instrument, says the Council, would reduce the repayment difficulties experienced by farmers by adapting their monthly payments to their cash flow. The Council therefore recommends that governments encourage the introduction of indexed farm mortgages under the same conditions as those proposed for the housing sector.

In addition, the Council recommends that, during a transitional period, government should insure the principal and interest of indexed mortgages against payment default by farmers, in order to overcome the lack of familiarity with farming on the part of new potential lenders.

Given that agriculture is a vital sector of the Canadian economy, says the Council, it is important to maintain its vitality and dynamism. An adequate supply of funds must therefore be made available to farmers – but in appropriate forms. The Council is aware that the introduction of indexed farm mortgages would not resolve all the problems faced by farmers, such as those related to the instability of their income.

ASSISTING BUSINESS

Industrial and commercial businesses are vital to the achievement of Canada's major economic and social objectives, which explains the keen interest shown by all levels of government in their financial health. When necessary, governments participate actively in business finance through the provision of loans, investments, and loan guarantees.

On March 31, 1980, there were 28 agencies, boards, and departmental divisions at the federal and provincial levels whose primary activity was to provide these forms of business finance. Total loans and investments outstanding amounted to $6 billion, and guarantees to $577 million.

The stated objectives of these agencies rarely mention the elimination of deficiencies or of financial market imperfections. Much more often, they mention the goals dealing with the economy as a whole: transformation of the industrial structure, job creation, establishment of new industries in designated provinces or regions, and so on. Contrary to a widely held view, most government programs and agencies were not specifically created to assist small and medium-sized firms or newly established companies.

Deficiencies in the supply of financial capital can affect two major categories of financial instruments: loans (debt finance) and purchases of capital shares (equity finance).

In the past, there were problems in the supply of term loans. These appear to have been resolved to a large extent and, in recent years, businesses seem to have had little difficulty in obtaining loans. The weakness in their financial structure is to be found in a small – and shrinking – equity base, particularly in the case of small and medium-sized firms.

As a rule, the smaller the firm, the greater its use of debt financing and short-term debt; the larger the firm, the more it tends to issue shares and debentures. Some 30 per cent of firms with assets of less than $250,000 have a debt-to-asset ratio exceeding 77 per cent. This proportion drops to 10 per cent for firms with assets exceeding $25 million.

This low equity base of small and medium-sized firms is by no means a new problem, but economic developments in recent years have drawn attention to the urgency of reducing this weakness. When firms lack a solid reserve of equity, they are deprived of a cushion to weather periods of high interest rates and lagging sales.

Many factors may explain the relatively weaker equity base of small and medium-sized businesses. Owners may be reluctant to part with some of the control over their firms, even when their own resources are limited; a lower profitability for some may contribute to reducing their equity; regulation and practices of some categories of financial institutions may restrict the supply of equity capital; certain features of the taxation system may favour debt financing; and some aspects of the structure of the equity market and the relatively high cost of new issues – particularly the smaller ones – may constitute another cause of this problem.

However, says the Council, government agencies that provide assistance to businesses have been geared to term lending and not to the problem of equity financing. Yet government could encourage the rebuilding of the equity base of Canadian firms in several ways, by modifying certain aspects of taxation and regulation, by contributing to the development of Canada's stock markets, or by resorting to limited equity participation.

Regardless of the specific method chosen, the Council recommends that federal and provincial governments modify their assistance policies to facilitate the strengthening of the equity base of Canadian firms, particularly small and medium-sized businesses.

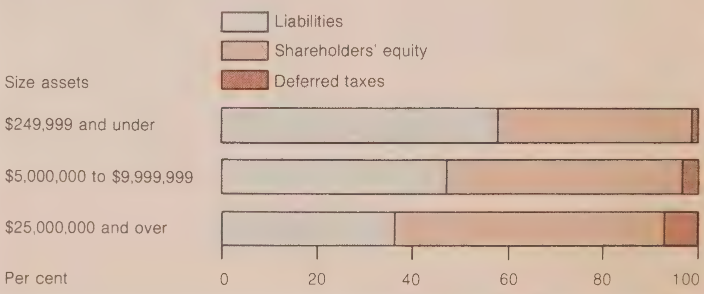
A second recommendation in this area is that public loans be extended only in cases where there is a strong presumption of the existence of a deficiency.

Public financing agencies providing assistance to businesses could, without great difficulty, operate in such a context and could take some limited equity participation in firms – as many of them already do. But the Council notes that a greater focus on the part of public agencies on the supply of equity finance will not be enough to resolve the equity problem, as government institutions hold a relatively low share of business finance.

In conclusion, the Council notes that over the past 40 years, despite some important changes in needs, there has been little change in the objectives pursued or the instruments used by government in its intervention in financial markets to provide assistance to businesses. A reorientation of government activity in financial markets favouring business equity finance would, according to the Council, be a step in the right direction.

How corporations do their financing

1977 /distribution of corporate financing by category of instrument and size of firm assets



AND SUPPORTING EXPORTS

Government credit and credit insurance offered to exporters are essentially extensions of government assistance given to businesses. However, trade in goods and services between countries has a number of special characteristics.

The risks undertaken by the partners in international transactions are generally greater than those faced in domestic trade. And the diversity in trade practices, methods of transport and shipment, and regulations – not to mention language and cultural differences – often calls for specialized services to exporters.

Canadian exporters must also face competition in foreign markets from foreign firms that often benefit from the financial support of their own governments. But like their foreign counterparts, Canadian exporters can take advantage of government assistance programs that complement, or replace in their absence, the services offered by financial institutions in the private sector.

Exports are of key importance to the Canadian economy, accounting for one-quarter of GNP in 1980. As of December 31, 1980, loans outstanding granted by the Export Development Corporation (EDC) – the country's main public supplier of export credit – amounted to $3.8 billion; the export credit insurance in force totaled $1.7 billion.

While the Canadian International Development Agency (CIDA) administers Canada's aid to Third World countries, the lines of credit that it extends to some of them benefit Canadian exporters as well. In 1980, loans granted by CIDA amounted to almost $250 million.

As with the housing, farm, and business sectors, government intervenes in export credit markets both to remedy potential deficiencies and to achieve major macroeconomic objectives that extend well beyond these markets. The objectives include the promotion of exports and the diversification of trade patterns and goods exported to improve the balance of trade; the promotion of industrial restructuring; job creation; and enhancement of Canadian firms' capacity to penetrate foreign markets.

To pursue these objectives, government uses two types of financial instrument – credit insurance and direct loans. EDC credit insurance protects Canadian exporters from any default of payment caused by commercial or political factors in the countries where their products are sold. Direct loans take account of the fact that Canadian exporters have greater financial requirements than do producers selling only in domestic markets.

Noting the absence of significant malfunctions in the credit insurance market and that the private sector could well take on at least a part of export credit insurance activities, the Council recommends that the EDC gradually move towards providing export credit reinsurance (i.e., assumption of part of the risk insured by a private company), leaving the field of insurance proper to the private sector. In addition, the EDC should serve as the insurer of last resort to close any gaps left by the private sector in providing export credit insurance.

In the case of export finance (direct loans), the Council recommends that the EDC continue to provide direct financing for Canadian sales abroad when it appears that the private sector is unable to provide the required credits.

But, noting the absence of generalized deficiencies in the export finance market, the Council also recommends that the EDC gradually withdraw from most direct-lending activities, concentrating its efforts increasingly in the field of credit insurance and bank guarantees. In addition, the EDC should be prepared to provide refinancing facilities for private lending institutions engaged in export finance.

One EDC objective is to match the subsidy programs of other exporting countries in order to make Canadian exports more competitive with foreign goods. The support offered by Canada, however, is much less than that offered by most major industrialized countries.

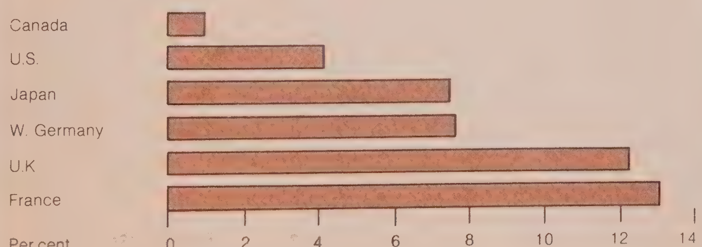
In the Council's view, export subsidies are both costly and a barrier to free trade, and should therefore be eliminated. On the other hand, the signature of an international agreement to that end seems far off, and unilateral abandonment and the necessary restructuring of the domestic economy to compensate for the loss of foreign markets could themselves entail high costs.

This leads the Council to recommend that the federal government continue its efforts, at meetings of the Organisation for Economic Co-operation and Development (OECD) and the General Agreement on Tariffs and Trade (GATT), to obtain an international agreement to further limit subsidized export credit.

Failing such an agreement, the Council recommends that Canada use subsidized credit only when it appears likely that it will facilitate the opening of new markets or will increase the market share for Canadian products.

The support industrialized countries give their exports

Proportion of total exports receiving government support[1] in selected OECD countries, 1980



1 Direct credits disbursed and guaranteed credits approved.

CALL FOR EFFICIENCY AND CONTROL

> *"Increasing the technical efficiency of agencies is the first step to increasing their economic efficiency."*

In the private sector, profitability in a competitive environment is the efficiency criterion generally recognized by business people and economists.

This criterion, however, cannot be applied without modification to government financing agencies and programs, since the objectives they pursue lead them to operate in areas which the private sector has not considered profitable. Their activities are therefore not comparable with those of private financial institutions.

Thus some public agencies often encounter very high costs in gathering information or face risks that are too great to be reduced through portfolio diversification, while others hold specialized portfolios offering little room for diversification. Moreover, the social goals pursued by government often diverge from the private profit motive.

The multiple objectives assigned to public agencies require different operating procedures. For example, agencies may be asked to carry out, simultaneously, policies intended to make up for some private sector shortcoming and to boost economic growth or improve Canadian living standards.

This complicates the management of a program or agency, leading the Council to recommend that, where appropriate, two categories of assistance be established within a public financing agency – one dealing with supplementing the private sector, the other dealing with broader social objectives.

A second recommendation in this area is that managers of public financing agencies be given financial guidelines consistent with the different categories of objectives pursued.

This alone is not enough, however, to ensure that the objectives will be met within the means at an agency's disposal. According to the Council, it is also important that government monitor the agency's activities.

This control can be exercised at three levels: at the budget level (assignment and use of budgets), at the procedural level (e.g., selection of clients, choice of financial instrument, internal operating procedures), and at the objectives level (definition and means of achievement). The control may be exercised by three groups in government – the executive, the legislature, and the Auditor General.

Public financing agencies are generally subject to strict budgetary control. The minister responsible and the Treasury Board, in addition to approving the total budgetary package, often impose constraints on the use of funds.

Given the importance of assessing the scope and the costs of government participation in financing the private sector, the Council recommends that Members of Parliament and of the provincial legislatures be given more opportunities to debate the amounts of the loans and guarantees to be granted in a given fiscal year by the financing agencies under their respective jurisdictions.

> *"It is important... that society, through its governments, maintain a strict control over the agencies that are charged with improving the welfare of all Canadians."*

The control over the actual operations of a public agency is generally not as tight as that exercised over its operating and capital budgets. This control is usually exercised within the agency, although the minister or his representatives occasionally also become involved. And the degree of control exercised varies from one sector to another.

Here the Council recommends that the federal and provincial governments consider the possibility of regularly selling off part of the loan portfolios of their financial agencies. This might enable legislators and the public in general to evaluate the operations of public loan and guarantee agencies and to determine whether the agencies had invested wisely in viable projects or had distributed the amount of subsidy judged necessary to fulfil their social role.

Finally, control over objectives is almost nonexistent. Not only are the objectives vague and sometimes beyond the reach of the agency, says the Council, but their merits are rarely questioned. When they are, the re-evaluation is generally done internally. According to a Council survey carried out for the report, the goals of nine lending agencies have never been reviewed, and those of 10 others have been only superficially examined.

In view of the importance of subjecting agencies to periodic review, the Council recommends that the objectives and operations of public financing agencies be reviewed every five years.

The Council notes that annual reports of public agencies can also provide a potentially useful source of information about their budgets, stated goals, and means adopted to achieve these objectives. But major shortcomings were found by the Council in most of the 34 annual reports it studied. They fall into two categories: those dealing with general information and those dealing with financial information.

General information primarily covers the statement of an agency's objectives, a description of its programs, and an analysis of its clientele. Here the Council recommends, among other things, that the annual reports of all public loan and guarantee agencies include a statement on each subprogram that they administer, giving the rationale and cost of each program and, to the degree appropriate, the characteristics of the beneficiaries.

Shortcomings in financial information are addressed in a recommendation that the financial statements of public loan and guarantee agencies follow the generally accepted accounting rules that are in effect in the private sector, where applicable, and that standards for the disclosure and presentation of financial statements specifically designed for public agencies be put into place, where necessary, as soon as possible.

Why do people move?

A better tax deal in another province, more generous unemployment insurance benefits, more federal money – these all have an impact on decisions Canadians make about moving to other cities or staying home.

It's not only the prospect of getting jobs or better-paying jobs that encourages people to move, says a study prepared for the Economic Council of Canada.

Many people in the 1970s pulled up stakes and moved to Alberta because they believed growing resource revenues meant they would get public services at lower cost than they would at home. These revenues helped hold down taxes.

Ten to 13 per cent fewer migrants would have moved to Alberta in 1977 if natural resource revenues had remained at real 1971 levels (after allowing for job-hunting migration).

There are other influences, too. Changes in the unemployment insurance system alone have reduced migration from the Atlantic provinces in the 1970s and have encouraged people to go to British Columbia.

The federal system of equalization payments, designed to partially close the gap between rich and poor provinces, is another factor in affecting people's decisions on whether to stay in an economically depressed area.

The study authors, economists Stanley Winer of Carleton University and Denis Gauthier of Queen's University, say the fiscal structure – government spending programs and the tax system – helps explain migration within Canada from 1968 to 1977. It was almost as important as the prospect of new jobs in encouraging poor Ontario migrants to move to Alberta, and explains why the Atlantic provinces switched from losing people to gaining them in overall terms during that period.

The study found that government fiscal programs had a greater influence on poor migrants than on richer people. This may be because poor families receive a larger portion of their income from government programs, say Winer and Gauthier.

The migration report, say the authors, is another contribution to the debate on the effect of these fiscal measures on the economy. Some economists argue that equalization payments block efficient development of the economy while others say that they yield real benefits.

Economist Thomas Courchene, now chairman of the Ontario Economic Council, has suggested that regional differences in earned income would be reduced if people moved to richer areas from poorer regions. Such measures as the equalization program frustrate this migration, he says.

On the other hand, the Economic Council of Canada concluded in its report *Financing Confederation* this year that an equalization program is essential to the efficient functioning of the economy. People and plants should stay where they are most productive.

The migration report does not settle the question of fairness and efficient economic development, but it does offer evidence that government programs do influence migration.

Analysing migration series developed from personal income tax and family allowance data, Winer and Gauthier say the unemployment insurance system is one of the strongest elements in reducing the flow of migrants from the Atlantic region.

Amendments to the Unemployment Insurance Act in the 1970s made it easier to qualify for benefits and for longer periods in regions where the unemployment rate exceeds the national average.

If these changes had not been introduced, the authors estimate, the rate of migration to Ontario from the Atlantic provinces would have been up to 42 per cent higher in 1977 than it was.

Interestingly, the unemployment insurance changes have also stimulated migration to British Columbia, normally considered a wealthy province, say Winer and Gauthier. B.C. is a relatively high unemployment region and migrants who fail to get jobs or lose jobs can be assured of good unemployment benefits.

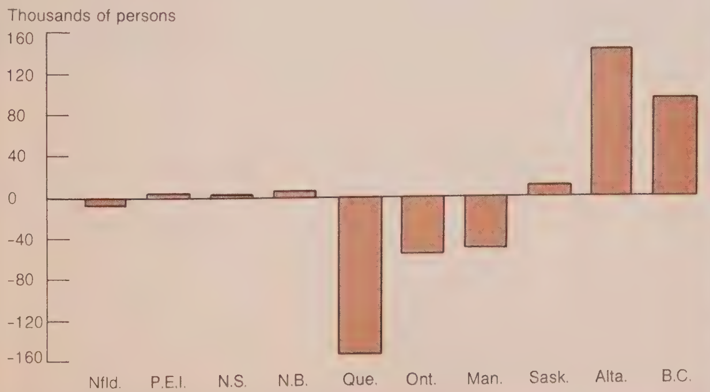
Increased equalization payments in the early 1970s also helped to deter some people – particularly low-income earners – from moving to wealthy western provinces such as Alberta and B.C. The number of poorer migrants to these provinces from the Atlantic region was up to 16 per cent lower in 1977 than it would have been without these increased payments.

This increase in equalization payments was largely the result of a rise in western natural resource revenues.

These growing western resource revenues helped draw both rich and poor people to Alberta, says the study. People were counting on getting public services at less cost to themselves.

Comings and goings in Canada

Net interprovincial migration, 1976-80



Internal Migration and Fiscal Structure: An Econometric Study of Interprovincial Migration in Canada, by Stanley Winer and Denis Gauthier (EC22-109/1982E; $8.95 in Canada, $10.75 elsewhere).

Council chairman talks about government deficits

The ballooning federal deficit has alarmed many commentators and has prompted some to demand a policy of deficit reduction.

While concerned about the deficit, the Economic Council of Canada has said its recent spectacular jump in size is both "understandable and manageable."

In fact, the Council recommended in its latest Annual Review that the government stimulate the economy with a $2 billion package even though that might increase the deficit a bit. The Council also urged the government not to try slashing the deficit during the current economic slowdown.

Au Courant asked Dr. David Slater, Council chairman, to discuss the deficit question.

Au Courant: Perhaps I could start by mentioning that a number of commentators have criticized us for recommending a $2 billion stimulus when the federal deficit is already at $20 billion. Are they not right to be concerned about such a large deficit?

Slater: Well, our position is that if you take a medium- to longer-term view of things there may well be something to worry about in the size of the deficit, in the sense that there may be some structural features in our government programs giving us deficits larger than we would like even if the economy were operating at a good level.

The thing we've been pointing out is that there are also some extraordinary short-term factors in play. And it's those short-term factors that are primarily responsible for the enormous increase in the government deficit recently. We're arguing that the current deficit, looked at as a short-term problem, is both understandable and manageable. Fundamentally, what we have shown is that when you have a recession, and the more severe it is, the more automatically government expenditures increase and government revenues shrink. And since we've had, by everybody's admission, the worst recession since the end of the war, it's not at all surprising that the government's expenditures, such as unemployment insurance and welfare payments, have gone up very rapidly, or that its revenues have shrunk by a greater degree than in any postwar recession. The upshot of that, of course, is that, when the economy recovers, there will be a reversal of this particular short-term factor.

We pointed to two other temporary factors, as well. As you know, for the first time since 1973, we've actually had a significant fall in the absolute price of oil in international markets. Well, the way that our government revenues and expenditures associated with oil are set up, the net oil revenue position of the federal government is very sensitive indeed to variations in the international price of oil. And that, too, has given an extraordinary shortfall compared with budget plans in the federal government's oil revenue. Those oil prices just have to flatten out, stop falling – they don't even have to increase – to bring about some improvement in the federal government position.

The third factor relates to the cost to government of servicing its debt. The net cost depends on the level of interest rates. And what we've pointed out is that we have had an exceptional period of high interest rates for a longer period than predicted, which has tended to increase the debt service cost of the Canadian government and the deficit on that account. But as everybody can see, interest rates have already come down a fair bit, and that factor alone will significantly reduce the relative burden of debt service of the government over the next year or two.

Then there's the question of the manageability. Does the public in general, do the people who hold securities, who manage pension funds, who are investment dealers, have the same understanding as we do of the causes and the enduring and temporary features of the deficit? It's not a question of whether we're right or wrong, but is there in fact a meeting of minds about this? I would say, yes there is, and because there is, the people who are managing capital funds are not particularly panicky about the deficit.

The second thing is that the deficit is more or less manageable depending on whether you've got a high savings rate or a low savings rate in your country. If you have high government deficits which need to be financed by extraordinary borrowing abroad, as in Brazil or Mexico, that's one thing. If they are being financed out of a high level of domestic saving, and indeed domestic savings levels are much larger than the government deficits themselves, then that is another thing. In Canada, we have a high personal savings rate which is available to finance the deficit. If in fact Canadian households were spending more, saving less, the economy would be stronger, and it would turn out that the government deficit would be smaller.

Au Courant: How does Canada compare with other OECD countries, as far as the deficit is concerned?

Slater: Well, I guess you'd say in comparison with the other OECD countries that Canada is neither a country with the largest deficits as a percentage of the national output, nor with the lowest in recent years. For example, Japan and Germany, two countries which are admired in many respects for their growth and for their inflation performance and so on, have persistently had deficits as a percentage of GNP which are quite a lot larger than those in Canada. On the other hand, the United States and France, in recent years, have had smaller deficits as a percentage of GNP than Canada. But the interesting thing is to make a comparison between deficits and saving performance in these various countries. What you have had in both Japan and Germany is a long history of high saving, so that they've been able to manage these government deficits fairly easily. And in Canada, it's also fair to note that, though we've had somewhat higher deficits than some of those countries, nevertheless our deficits have not been outrageous in comparison with our savings rate.

Now, if you take the most recent experience, I think what you are faced with is for Canada an exceptionally high government deficit position. When you get federal government deficits running at 5 per cent of GNP and deficits for all governments together running maybe at 3 1/2 or 4 per cent of GNP, that's exceptional by Canadian historical standards. But it remains true that some of the other countries had exceptionally high deficits too. The U.S. experience recently has been to

have a much bigger deficit than their historical experience and the same is true in France and Italy. But even with all of that, in Canada you've got two exceptional things at the same time, remarkably high government deficits, but extremely high personal savings, too.

Au Courant: If we were at full employment, would the government be in a deficit position? Can we expect, for example, that a recovery in the next few years would bring the deficit into balance?

Slater: I think one has to make some allowance for debt service adjustments and oil and gas revenue adjustments, as I mentioned earlier. I don't know that one can be certain that full employment or a reasonable average level of employment will tip the balance for the federal government or, for that matter, for any government in Canada, into a surplus position. There are some calculations, but they depend on judgment calls.

There's no doubt that there would be an enormous difference, an enormous reduction both absolutely and as a percentage of GNP, in the federal government's deficit position if we could get to an average business cycle condition that's not based on exceptional stimulative action by government, but rather on average performance of the private sector in terms of spending, housebuilding, investment, inventory accumulation, and buying of autos, stoves, fridges, and so on.

Au Courant: What is the danger of trying to reduce the deficit at this point?

Slater: The main danger of trying to reduce the deficit at this point is that, as households and as businesses, we'll be driven to such a holding back on our spending that we'll drive the unemployment rate much higher, we'll drive the capacity utilization much lower, we'll drive profits much lower, and indeed we may even drive ourselves into a kind of trap, perhaps temporarily, but still a trap, in so far as we won't be able to get people to spend and businesses to invest because activity is low – and activity is low because we're not spending.

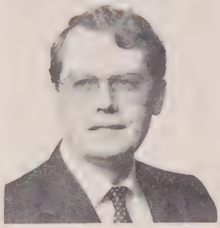
Au Courant: So, on balance, how would you suggest the government approach the whole question of dealing with the deficit?

Slater: I think that what the Council suggested is that the first order of business is to get the message about the reasons for and the manageability of current deficit positions presented to the Canadian people in ways that they can see and can examine and so on.

I think, too, that the message of fiscal responsibility has to be put across to foreign governments, international institutions, foreign capital markets, and so on. I have no reason to doubt that message is getting across, but it's something that has to be worked at on a continuing basis. The Council took the view that prospects of the winding down of inflation are so strong in Canada that indeed we could and should shift our attention a little towards getting employment up and unemployment down, and if some small stimulative action would result in a marginal increase in the deficit, that's a risk worth taking.

New appointments to the Economic Council of Canada

Paul-Émilien Dalpé is founder and past president of the Centrale des syndicats démocratiques. A former executive of the Confédération des syndicats nationaux, and past president of two hospital unions, Mr. Dalpé has also served as a member of numerous committees, including the Conseil d'administration of the Société générale de financement, and the Consultative Council of Labour and Manpower of Quebec.



Gerald V. Schuler is chief executive officer of the Co-operative College of Canada in Saskatoon. A past director of the Rural Education and Development Association in Edmonton, and holder of various offices with the Farmers' Union and Co-operative Development Association of Edmonton, Mr. Schuler has been involved in farming, co-operative management and enterprises, and education for many years.

Douglas P. Thomas is a partner in Toronto Investment Management Inc., an investment counseling firm managing assets such as pension funds, insurance companies, and personal accounts. Previously associated with Collier, Norris and Quinlan, and Pitfield MacKay Ross Ltd., Mr. Thomas is regent for the Canadian Investment Seminar, and past director of the National Society of Financial Analysts.

J. Irving Zucker is owner and president of three lighting companies in Burlington and Hamilton, Ontario, and is also involved in real estate redevelopment in Hamilton. He is a member of the Faculty of Business at McMaster University, and patron and sponsor of "The Zucker Lectures" there. Mr. Zucker was formerly a partner in the ownership and operation of five Ontario radio stations.

Looking Ahead

That's the task assigned by Parliament to the Economic Council of Canada when it was created in 1963.

Since that time the Council, drawing on the expertise of its staff of economists and other specialists, has provided Canadians with an ongoing analysis of the economy, looking at economic policies and the effect of possible alternatives on the country's economic prospects. The projections, policy analysis and recommendations formulated by the Council in the past decade have played a significant role in public policy.

The issues the Council deals with affect each of our lives. They include inflation and the erosion of our buying power, human resources planning for future jobs, the distribution of wealth among Canada's regions, and even the cost of taking a taxi in Montreal, land use planning in Vancouver or the effect of the spruce budworm on Newfoundland's economy.

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au courant

Council of Canada

Volume 3, No. 4, 1983

Special anniversary feature on the Council

The outlook for Alberta

More on governments and financial markets

Comparing Canada's energy record

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of French titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council.

The following research studies have been published since the last issue of *Au Courant*.

Job Search Behaviour, Unemployment, and Wage Gain in Canadian Labour Markets, *by Abrar Hasan and Surendra Gera* (EC22-110/1982E; $7.95 in Canada, $9.55 elsewhere).

The Impact of Investment Incentives on Canada's Economic Growth, *by Carlton Braithwaite* (EC22-112/1982E; $8.95 in Canada, $10.75 elsewhere).

Farm Incomes in Canada, *by George L. Brinkman* (EC22-97/1981E; $7.95 in Canada, $9.55 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 221 "Migration and a Small Long-Term Econometric Model of Alberta," *by Thomas T. Schweitzer.*

No. 222 "International Energy Comparisons: A View of Eight Industrialized Countries," *by Bobbi Cain, assisted by Pat Nevin.*

No. 223 "L'offre de découvertes de pétrol et de gaz naturel en Alberta, 1947-1985," *by Jacques Jobin.*

No. 224 "An Economic Analysis of Industrial Training in Canada," *by Wayne Simpson.*

No. 225 "Entry and Exit in the Canadian Manufacturing Sector, 1970-1979," *by J. Baldwin and P. Gorecki, with J. McVey and J. Crysdale.*

Reprints

The following report has been reprinted, and can be ordered according to information below:

Erratum

Au Courant apologizes for errors made in the biography of new Council Member, Douglas P. Thomas (*Au Courant*, Vol. 3, No. 3). The final sentence should read, "Mr. Thomas *was* regent for the Canadian Investment Seminar, and past director of the *Montreal* Society of Financial Analysts."

The Economic Council of Canada is an independent advisory body established by Parliament in 1963 with broad terms of reference to study and report on a wide range of matters relating to economic development. The act requires the Council to make an annual review of the country's economic problems and prospects, and empowers it to conduct other studies on its own initiative or at the request of the Government, and to publish reports as it sees fit.

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, P.Q., K1A OS9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion papers and *Au Courant* are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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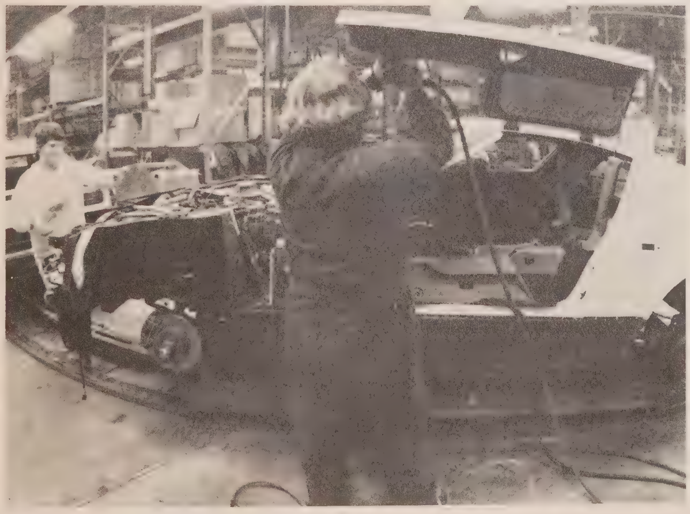
au courant

Volume 3, No. 4 1983

Governments and financial markets



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Government aid off target

At a time when skilled industrial workers are sorely needed, government assistance to manpower training programs may be off target.

University of Manitoba economics professor Wayne Simpson, in a paper written for the Economic Council's research into growth and productivity, says that government subsidies appear to be having no effect where they could be doing most good – in encouraging the training of general skills. Instead, their greatest impact seems to be in the area of specific skill training, where firms have more incentive to finance their own programs.

Simpson's purpose in what he terms an exploratory research paper is to evaluate industrial training in Canada through a better understanding of the economics of training decisions. In the course of his analysis, he makes extensive use of a survey of almost 1,400 Canadian companies (the Human Resources Survey) conducted by the Economic Council in 1980 (*Au Courant*, Vol. 1, No. 2). The survey collected information on current and future skill shortages, in-house training programs, industrial training costs, and the availability of government assistance. Using the survey data, Simpson develops an economic model to pinpoint the major training problems companies are facing, and to assess the effectiveness of government policies in this area.

Evidence from the Council's 1980 survey and other sources signals the existence of critical shortages in various labour skills, a finding which, given the current large numbers of job hunters, implies manpower training programs aren't entirely up to scratch. If these programs could turn out more skilled workers, Simpson says, then companies would be able to fill vacancies and to operate at peak efficiency. Productivity would inevitably increase, and inflation would be curbed as well, through a moderating of the wages firms need to pay to attract skilled labour.

So, better government support for job training can be an effective policy response to our current economic dilemma, Simpson says. Too, there are valid economic reasons for government intervention in this area, he argues, in that government subsidies or loans can provide employers with some protection against the risks involved in running training programs, for example. While the federal government appears to be stepping up its participation, up to 1980 it concentrated most of its spending on the Canada Manpower Industrial Training Program, which emphasizes rapid skill training to bring down unemployment as quickly as possible, and to fill glaring labour shortages. The short-term, classroom-type approach of this program though may not promote long-term productivity and employment growth nearly as effectively as thorough on-the-job training over longer periods, Simpson says.

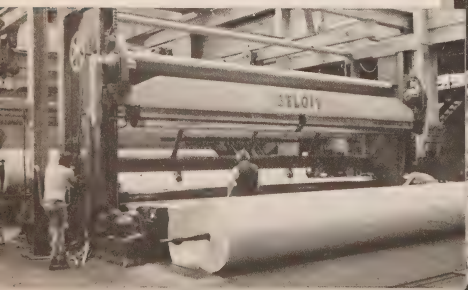
In order to analyse job-training decisions and the appropriate direction for government policies with any effectiveness, the author says, a distinction should be made between general skill training on the one hand, and specific skill training on the other. The former refers to the acquisition of skills in widespread demand, and the latter to specific skills valuable only to a single firm. Companies will have a vested interest in teaching employees special skills of direct immediate benefit to their operations. But employers may be less inclined to pay for general training, on the grounds that costs are hard to recover, since workers with these portable skills can easily find work elsewhere. So government assistance is probably best directed towards this kind of program. On the other hand, Simpson adds, general training benefits a firm by equipping workers with skills it badly needs.

When Simpson constructs an economic model to isolate some current key training problems, he finds, somewhat surprisingly, that government subsidies in the recent past have resulted in more specific training, but have had no impact on general training programs. This finding, he says, "can only suggest that current government assistance to promote non-apprenticeship training is ineffective."

Despite the limited nature and the datedness of the data at his disposal (and he underlines the pressing need for more groundwork in this area), Simpson is also able to conclude that:

- larger firms have longer training programs and do more specific training than smaller ones;
- Ontario and the Atlantic region are doing significantly less training than Quebec and British Columbia;
- the increase in the minimum wage in the 1970s and 1980s – which arguably could have impeded training programs, by making it more expensive for companies to keep workers-in-training on the payroll – has, in fact, had no impact on employers' training decisions;
- high worker turnover increases the incidence of general training within firms (indicating that the need to fill vacancies outweighs the risk of losing workers to other firms).

"An Economic Analysis of Industrial Training in Canada," by Wayne Simpson. Discussion Paper No. 224.



National Film Board of Canada

Alberta's prospects not bright

Prosperous Alberta might be facing serious economic problems within the next twenty years, according to an economic scenario developed by a Council economist.

On the basis of this scenario, Thomas Schweitzer says that the province's days of strong economic growth could be numbered. Its economy may begin to falter badly in the late 1980s, his analysis shows, with much slower growth and, most probably, higher unemployment in store thereafter. As a result of this slowdown, by the 1990s, more people may be leaving Alberta than settling there.

In conducting his analysis, Schweitzer considers changes only in the energy sector, making the assumption that there will be no major changes in any other sector over the next 20 years. His calculations are based on 1981 National Energy Board oil and gas projections, which are now being revised.

Over the past 15 years, strong growth, low unemployment, and large government revenues from natural resources have made Alberta a haven of prosperity, attracting swarms of people from other provinces. Schweitzer's main research purpose is to discover how much more immigration can be expected. In addition, he attempts to see if the extra benefits Albertans receive via the province's hefty royalty revenues are encouraging a massive immigration which lowers the province's labour productivity and, hence, Canada's overall output.

His analysis of these questions by means of a newly developed economic model shows that immigration to Alberta will slow down considerably in the future. About 194,000 persons will move there between 1980 and 2000; after 1995, departures will begin to outnumber arrivals, by as much as 56,000 people in the year 2000. While some immigration can indeed be traced to fiscal inducements such as lower taxes, the loss to national output is modest, the author discovers.

In the course of conducting this study, however, Schweitzer has found that his economic model is able to deal with a wider and more interesting range of issues as well. When he asks questions about the effect dwindling conventional oil and natural gas production might have on provincial growth, unemployment and labour incomes, he receives some surprising answers, as illustrated in the charts.

The basic projection, or "base case" used in the analysis, assumes conventional oil and natural gas output will decline in line with the National Energy Board forecast of June 1981 and that no further oil-sand plants will be built. An alternative scenario is also developed, allowing for the construction of four additional Syncrude-size oil-sand plants between 1983 and 1995. Both projections also assume that the world price of hydrocarbons will rise about 2 per cent a year, and that the federal-Alberta agreement on hydro-

The outlook for Alberta

carbon prices and taxes will hold for the rest of the century. In both cases, too, unemployment is assumed to have a moderating influence on wage inflation.

The charts tell the story. The base case shows that provincial production will continue to grow by about 4.7 per cent a year until 1985, when the growth rate will drop to 1 per cent until 1992 and turn into a decline thereafter. This result is startling, Schweitzer says, particularly given that, over the 1961-79 period, Alberta's growth rate was 6.6 per cent. A key reason for this reversal lies in the decline in hydrocarbon output as the province gradually runs down its conventional oil reserves, combined with a fall in gas output starting in the mid-1980s. Rapid growth in coal mining isn't enough to counteract this decline and, by the year 2000, Alberta's mining output will be about 10 per cent below the 1979 level.

If oil plants are constructed, Alberta's output will continue to grow throughout the period under study, but at a progressively slower rate, well below the 1961-79 levels.

The base case spells out a worsening in unemployment as well, although Alberta's rate will remain lower than that of the other provinces until 1994, when the gap will close. Plant construction will bring unemployment down slightly, but even so, it will remain high by Albertan standards.

Workers will be out of luck on the wage front too, according to the basic projection. Real labour income per employed worker will hover around the 1979 level till 1985, when it will rise slightly, only to begin a prolonged decline in the late 1980s. A slow recovery in the late 1990s will barely restore it to its 1980 level; calculations show that, by 1990, Albertan workers will have lower real labour incomes than the average for the rest of Canada. Building plants though will brighten the wage outlook somewhat, particularly once the second plant is under construction and the first starts producing.

"Migration and a Small Long-Term Econometric Model of Alberta," by Thomas Schweitzer. Discussion Paper No. 221.

Comparing Canada's energy record

People who chastise Canada for its inefficient, wasteful energy habits are guilty of gross oversimplification, according to a new Council paper.

In fact, Canada's record as an energy consumer stacks up pretty well beside that of other industrialized countries, even when key factors such as weather and geography aren't taken into consideration, says Council economist Bobbi Cain.

With the assistance of Pat Nevin, Cain compares energy requirements and consumption during the 1960s and 1970s within the various sectors of eight industrialized countries: Canada, the United States, Germany, France, Italy, the United Kingdom, Sweden, and Japan. In so doing, she looks at each country's performance from three angles: its energy requirements and consumption in total, per person, and per unit of gross domestic product (GDP) output.

Energy requirements (the total energy needs within all sectors of the economy) are supplied by many sources – coal, wood, peat, electricity, natural gas, and crude petroleum. In absolute terms, the United States was by far the greatest energy user throughout the 1960-79 period, Cain finds. Although Canada stands in fifth place by this measure, the picture changes dramatically when each country's energy needs are examined on a per capita basis. Then Canada moves up the line to vie with the U.S. as the greatest per capita energy user.

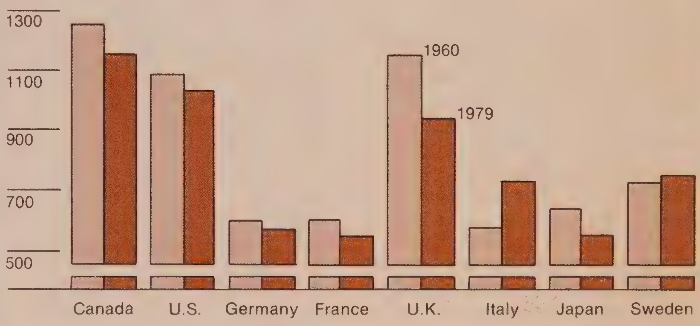
However, Cain points out, Canada doesn't come off badly in terms of growth in per capita energy requirements over the 1960-79 period. With an average growth rate of 2.9 per cent a year, it lines up with most other countries in the sample. Japan (with a 6.3 per cent yearly growth rate) and Italy (with 5 per cent) easily clock the highest rates of the group.

Perhaps the most significant measure of energy needs is found in each country's energy requirements per unit of output. Cain's calculation of the amount of energy needed to produce a million dollars of real GDP – measured in 1975 prices in terms of U.S. dollars – puts the United States and Canada at the top of the list (see chart), joined in the early part of the period by the United Kingdom, while the rankings among the other countries shift throughout the period.

As a final test, Cain compares the growth in energy requirements for each country with their respective growth in overall economic activity (measured by growth in GDP in constant U.S. dollar terms), in order to gauge the energy intensity or efficiency of each economy. Canada tops the list as the country with the most energy-intensive industrial structure of the sample, a finding which reflects the premise of the inexpensive and readily available energy on

Energy needs per unit of output

Tons of oil equivalent required to produce $1 million U.S. of real Gross Domestic Product ($1975)



which the Canadian economy has been built. But Canada has been using energy more efficiently since 1973, Cain says, as indeed have all the countries in her sample (most notably, Japan and the U.K.) with the exception of Sweden.

Cain follows the same procedure to trace trends in energy consumption for her sample group. The difference between the initial demand for energy and the final consumption stage, she explains, is accounted for by the intermediate or "transformation" sector, where energy is used up in the process of conversion to final forms (such as electricity and gasoline, for example).

As is the case for energy requirements, the United States once again leads the field in total energy consumption. Of much greater interest though, in Cain's opinion, is the change over time in levels of consumption. The U.K. was the most successful in keeping consumption growth down, a reflection, in part, of its troubled economy; with a 1.3 per cent rate of change over the entire period, its consumption level was only 26.6 per cent higher in 1979 than it was in 1960. At the opposite extreme lies Japan, where consumption increased by 340 per cent between 1960 and 1979, an annual growth rate of over 8 per cent.

Canada ranks fourth in terms of growth in total consumption, and was remarkably effective during the past decade in slowing the rate of growth, which declined from almost 6 per cent a year in 1972 to under 2 per cent in 1979.

Energy consumption per person was greatest in the U.S., closely followed by Canada in every year analysed. The U.S. though is the only country where the per capita growth rate actually declined; in Canada, along with Germany and Sweden, consumption per person grew about 3 per cent a year, placing Canada about midway in the sample.

The accompanying chart shows how each country fared in terms of final energy consumption per unit of output. The effect of the OPEC (Organization of Petroleum Exporting Countries) price explosion in the early 1970s is crystal clear: every country except France – and the U.S. and Canada in particular – noticeably reduced consumption between 1973 and 1979.

Once again, Cain calculates the energy efficiency of the respective economies, this time in terms of final energy consumption. In this case, the picture which emerges is considerably different for some of the countries from that in the energy requirement scenario. Canada, the U.S., Japan, and most notably the U.K. – where industrial consumption of energy increased by only 20 per cent, while total output went up by 50 per cent, a phenomenon related to the shift from coal to petroleum and natural gas – were more energy-efficient at the end of the period than at the beginning. France, Germany, and Sweden, on the other hand, had slightly more energy-intensive economies by 1979 – and Italy markedly more so, with consumption growth centred in the industrial and road transportation sectors.

Finally, Cain looks at consumption patterns for three major sectors in each economy during the 1975 to 1979 period: the industrial sector, with iron and steel isolated for comparison purposes; the transportation sector, with road consumption isolated; and "other sectors," with residential use isolated for the latter part of the period in question.

She finds that in Canada and the U.S. where industrial, geographic, and climatic conditions are reasonably similar, the three sectors consumed about equal amounts of energy, with strong growth evident in the transportation sector, particularly in Canada's case. Canada's growth in total consumption within these sectors was about average for the sample, increasing at a much slower rate than growth in Italy and Japan, the leaders.

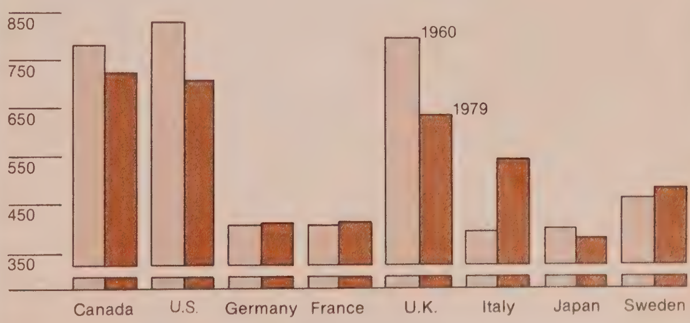
In contrast to the North American economies, the industrial sector in Japan consumed well over half its energy requirements, although its thirst for energy declined somewhat over the period. Italy's industrial sector used up 50 per cent of its available energy in 1960, but consumption declined to 44 per cent by 1979, partly because of a drop in the amount consumed by the iron and steel industry.

The industrial sectors of France, Germany, and the U.K. accounted for about 48 per cent of energy requirements in 1960, but that share dropped to under 40 per cent by 1979, due to a considerable reduction in demand by the iron and steel industry. More energy-efficient methods of production, and a switch to more efficient fuel sources, along with some reduction in crude steel output, probably explains this sizable decline, Cain says.

Given the energy needs of the industrialized countries under study, the question of import dependence assumes considerable importance. Canada alone, Cain discovers, switched (in 1970) to the role of net exporter of all energy sources. All the remaining countries became increasingly reliant on imported energy, particularly Japan (importing 90 per cent of all energy needs in 1979), Italy (86 per cent), and France (78 per cent).

Final energy consumption per unit of output

Tons of oil equivalent consumed in producing $1 million U.S. of real Gross Domestic Product ($1975)



"International Energy Comparisons: A View of Eight Industrialized Countries," by Bobbi Cain, assisted by Pat Nevin. Discussion Paper No. 222.

WHAT THE ECONOMIC COUNCIL OF CANADA IS ALL ABOUT

The Council was set up under the Economic Council Act of 1963 in a time with certain similarities to the present. Canada had recently undergone a period of unsatisfactory growth and what people then considered an unsatisfactory price performance. Governments in Canada and in many other countries wanted advice, information, and analysis on policy alternatives – or, if you like, consultative planning.

By contrast with its predecessor, the National Productivity Council, the Economic Council was designed to take a somewhat broader, comprehensive approach and was given a number of statutory responsibilities, which included:

- providing a regular assessment of the medium-term and long-term prospects of the economy, and comparing these prospects with the potentialities for growth of the economy;
- studying how national economic policies can best foster the balanced economic development of all areas of Canada;
- encouraging maximum consultation and co-operation between labour and management and;
- seeking full and regular consultation with appropriate agencies of the provincial governments.

The Council was also assigned a major role in increasing public understanding of and encouraging public debate on major economic policy issues.

The Act itself, the ensuing discussion in Parliament, and the positions taken by the first Chairman, John Deutsch, set several important characteristics of the organization. It became an independent, national, advisory agency focusing on the medium and longer term.

It was independent in the sense that it operated under its own Act, with the ability both to undertake its own research and to publish on its own initiative (as well as to undertake studies at the request of the federal government). It was national because its mandate extended to looking at things of national interest rather than things of paramount concern to the federal government alone. And it was advisory in a special sense.

The first Chairman turned down requests to act as a confidential advisor to the government or to become directly involved in policy-making operations. Instead, he insisted that conclusions would be reached only on the basis of prior research and analysis, the results of which would be made available to Council Members for assessment, discussion, and possibly recommendations, and then made public.

The Council's Act and the objectives assigned to it by Parliament have remained unchanged since that time, despite rather searching re-examinations of the institution by successive Chairmen, as well as by other sources both within and outside government; today, as earlier, the Council meets its objectives by fulfilling three important roles: providing research, information, and advice.

Research is, of course, the Council's life blood, but it is not a research institution in one of the more frequently used senses of the term. The research undertaken is focused squarely on specific issues and it does not normally include more broad-ranging work.

Over time, however, there has been a deliberate attempt to strengthen the Council's research capabilities to accomplish more with given resources. New research by staff has been supplemented by an expansion in research contracts and, in the early 1970s, a shift to the use of a number of task forces, each concentrating on a specific topic. This has led also to an increase in new, more original research, such as that concerning the impact of regulation on various Canadian industries (1981), and the background work for our recently published study on labour market imbalances.

Each task force consists of a project director and a core of research economists who conduct their own research and at the same time assist in the management of outside contract work. As

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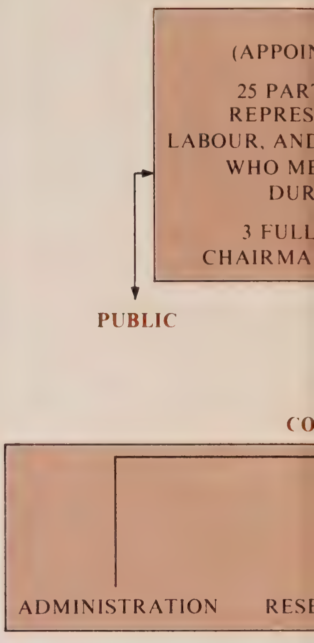
AND REPORTI



each task force winds up, its staff is r
assigned to a new problem area, usual
after a short period for "cleaning up"
background studies.

At the present time, research is bei
conducted by individual groups in the
following areas:

- Technological Change, Trade and Income Growth: This report, to be released later this spring, is the "bottom-up" part of a two-pronged attack on productivity problems. It focuses particularly on the role of technologic change, a subject which has for too long been relegated to the residual in the growth-accounting framework. Among other things, the study will be reporting on the results of a survey of innovations by a large number of Canadian firms, which gives us a handle on importation and diffusion of ne technology and what might be done t speed up the latter. The study will als evaluate various government program to assist research and development an will look at new information on industrial adjustment to import competitio
- Twentieth Annual Review: This report is scheduled for September 1983. It will mark the second year of

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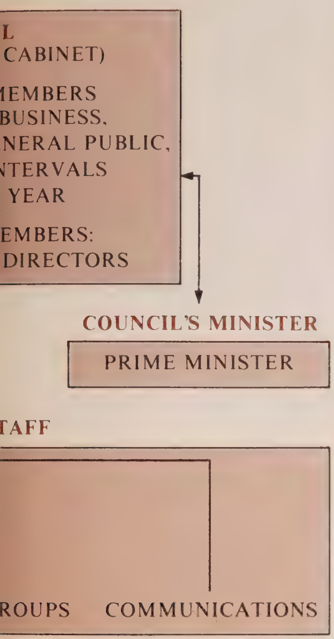


ew time schedule for the Review that designed to tie in better with the lanning cycles of governments and rivate organizations. Since it is a sort f anniversary document, it will provide oth a look back at changes, including ructural ones, over the last couple of ecades, and a look forward at some of eir implications for economic erformance.

• Growth and Productivity: We hope publish this report – the "top-down" art of our productivity work – early in 984. Unlike earlier work, this project ill be cast largely in a Total Factor roductivity rather than a Labour Pro-uctivity framework and will tend to se macro analysis more to place the etailed micro analysis in perspective an to direct policy prescription. mong other things, it will attempt to beyond the usual examination of the lationship between outputs and puts to see how that relationship may affected by industrial and market ructure, e.g., tariffs and concentra-on. Particular emphasis will be placed the service sector.

• Western Development: This report, hich is scheduled for publication in

1983 marks the 20th anniversary of the Economic Council of Canada. In honour of that event, *Au Courant* features a look at the Council past and present. The material presented below is taken from a speech given by Council director Dr. Peter Cornell to the Atlantic Canada Economics Association.

1984, represents a continuation of the Council's commitment to regional stud-ies. (For more detail on this project, see *Au Courant*, Vol. 3, No. 1.)

• Energy Issues: This report too is scheduled for publication in 1984. The Council is seeking energy policy options that will lead to a more har-monious resolution of differences in energy policy among governments and energy industry participants. (For fur-ther details, see *Au Courant*, Vol. 3, No. 2.)

• The CANDIDE Group: This is a continuing group which provides a basic input into the Council's assess-ment of economic performance as well as analyses of special issues such as energy problems. The Group is just beginning a complete revision of the CANDIDE model.

• The Exploration Group: This too is a continuing group, set up only last year to conduct research into special topics, but to focus particularly on feasibility studies for major Council consensus documents. At the present time, the group is carrying out a lim-ited project on the problems faced by women in the labour market (part of which may be included in the Twen-tieth Annual Review) and it is begin-ning feasibility studies of the role of Crown Corporations, business income taxation, medium-term fiscal stance, health services and agriculture.

The Council's **information** (and edu-cational) role is carried out via all of the communications media but for the most part it centres around our printed documents, including the Annual Review and other Council consensus reports – for which the Council as a whole takes responsibility – various authored documents – Research Stud-ies, Technical Papers, and Discussion Papers – conference reports, and the Council's quarterly magazine, *Au Cou-rant*.

The **advisory** function involves the Council Members – the Chairman and two full-time Directors and up to 25 part-time Members, who meet four or five times a year – in the development of economic policy advice and recom-mendations for governments and the private sector, the promotion of consul-tation and co-operation between labour and management, as well as consulta-tion with a variety of other agencies. Some recent examples include recom-mendations on fiscal and monetary policy in the *Nineteenth Annual Review* (September 1982); policy advice and recommendations on improving the functioning of the labour market (June 1982) and on federal-provincial fiscal relations (February 1982); and a major report on the reform of government regulation (June 1981).

Once the Council as a whole has given preliminary approval to a research project directed towards a consensus document, a new staff group is set up, which reports back to the Council Members several times. After a final draft has been discussed – assuming it has received general approval – there is a short period for final revisions and sign-off by individual Council Members before the document goes to print. One major change in the last few years is that Members can now dissent in writing with all or, more usually, parts of a report, such as specific recommenda-tions. My own feeling is that in today's circumstances this approach has in fact strengthened the Council's reports.

Nevertheless we do put forth serious efforts to move towards consensus and that process itself is very valuable.

The most important question, of course, is whether all of this has an impact on policy. It is possible to go back and indicate where governments have adopted specific recommendations of the Council in whole or in part. Mr. Lalonde's recent presentation with respect to the increase in unemploy-ment insurance contributions provides a case in point. But the Council is an advisory body and not a policy-making body. Perhaps its most significant achievement over the past 20 years has been its contribution to a raising of the level of economic education and aware-ness in this country.

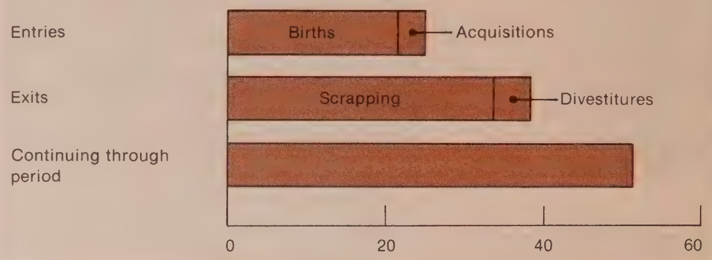
Manufacturing meets challenge

Canadian manufacturing companies rose to the challenge of a stimulating new trade environment in the 1970s, according to a Council paper.

Economists J. Baldwin of Queen's University, and P. Gorecki of the Economic Council – with assistance from J. McVey and J. Crysdale of Statistics Canada – reach that conclusion following an intensive examination of the process whereby firms entered or exited from industries in Canada over the decade 1970 to 1979. A contribution to the Council's current research into technological change, trade and income growth, their paper makes use of a specially created database at Statistics Canada, unique in its compilation of data from a wide cross-section of manufacturing companies.

What happened to manufacturing firms in the 1970s

Average number of entering or exiting companies across 141 industries, 1970-79



Need to adapt

During the 1970s, the Canadian manufacturing sector was faced with the need to adapt to a fast-changing environment. Trade in terms of both exports and imports increased substantially during the decade (up by between 20 and 25 per cent), as tariffs fell (by approximately 30 per cent between 1966 and 1978).

An important public policy issue, particularly given current rising protectionist sentiment and fear of unemployment through import competition, say Baldwin and Gorecki, is the way in which companies adapt to such changes. Conflicting points of view have been expressed in this regard. One camp holds that Canadian firms would not be able to survive in the face of increased competition from cheaper imports; another has it that they would meet the challenge by making certain adjustments, such as specializing in a narrower brand of product lines.

One measure of adaptability lies in calculating for each industry how many companies begin operations, and how many go out of business over a given period. This turnover process is continual, natural, and usually involves a surprisingly large number of firms, Baldwin and Gorecki say; new companies will enter an industry whenever they see profits to be made, for example, while others will leave under pressure of increased competition or poor profits.

A thorough understanding of how this entry-exit process worked during the 1970s would cast new light on the debate about the effects of freer trade, say the authors. Further, it would provide guidance to policy-makers, by indicating whether industries are adapting well on their own, or whether policy action is necessary.

As the chart shows, a substantial number of companies entered and left industries between 1970 and 1979: entries accounted for on average 26 per cent of an industry's sales, while exits accounted for 31 per cent. This indicates a reasonable balance between the two processes, the authors say, suggesting a potential for adjustment that was not as painful as many had anticipated. But because averages across the entire sector could be masking important differences among specific firms, the authors carry their analysis one step further. While earlier research in the field looked at only part of the process, either by lumping entry and exit together or by investigating one or the other, Baldwin and Gorecki examine the two procedures separately. In addition, they recognize that each can occur in more than one way: an entering company can set up a new plant, or buy an existing one; an exiting company can scrap operations altogether, or merge with or sell to another organization. Further, existing companies can follow similar procedures with regard to part of their operations.

Authors' results

The authors discover that the freer trade environment of the 1970s played a positive role in a company's decision to enter an industry. New Canadian firms went into business in direct response to both increased export possibilities and a growing domestic market. Imports though, to the extent that they reduced domestic sales, deterred firms from setting up shop.

However, casting doubt on the theory that increased imports would harm domestic manufacturing, Baldwin and Gorecki discover that the greater the import growth, the less the likelihood of companies to exit.

Their analysis of firm exits also shows that, not surprisingly, Canadian companies were less likely to scrap operations in times of booming exports and domestic sales. What is surprising though the authors say, is the discovery that firms balked at closing down in tough times; the larger the negative growth rate, the fewer the plants that were scrapped.

But the majority of exits were the result of a natural replacement process, rather than forces of trade, the authors find.

A variety of other topics are covered in the paper as well, including a comparison of entry-exit between domestic firms and foreign-controlled ones over the 1970-79 period; analysis of different types of mergers during that time; and information on the relationship between trade liberalization and firm rationalization.

"Entry and Exit in the Canadian Manufacturing Sector, 1970-1979," by J. Baldwin and P. Gorecki, with J. McVey and J. Crysdale. Discussion Paper No. 225.

AID TO BUSINESS: WHO BENEFITS?

In its recent report on Canadian financial markets, *Intervention and Efficiency*, the Economic Council calls for a far-reaching review of federal and provincial financing programs for the private sector. In the following pages, *Au Courant* takes another look at some of the issues examined in the report – including the following analysis of the beneficiaries of public assistance to the business sector.

Through their financing agencies and programs, governments at the provincial and federal levels pursue two broad categories of objectives. They play a "corrective" role in an attempt to compensate for existing deficiencies in the functioning of capital markets – the so-called credit gaps. They also play a "developmental" role, attempting to modify the pattern of resource allocation – through, for instance, industrial restructuring – in order to promote economic growth and social progress.

Beneficiaries of government assistance should be chosen in such a way as to permit the achievement of government objectives. Thus, in this context, one might have expected to find a greater emphasis on assistance to small and new businesses – the concerns more likely to be affected by market deficiencies.

In most cases, however, loan and guarantee agencies and programs do not seem particularly inclined to assist new or small firms. For instance, a December 1980 survey showed that businesses in existence for less than two years received less than their share of assistance from government agencies and programs at both the federal and provincial levels. A comparison of the clientele of four public agencies accounting for 82 per cent of loans outstanding with that of two main private specialized lenders shows that three of them have a lower proportion of new businesses in their clientele (19.2, 15.5 and 10.6 per cent) than their private sector counterparts (18.5 and 26.7 per cent).

The situation is similar with respect to financing given to small businesses, defined here as those with sales of less than $2 million. While 97 per cent of Canadian firms are small, the proportion of loans extended to them by three large agencies is well below that figure. In fact, it appears that public lending agencies grant a relatively higher proportion of the volume and number of their loans to very small or very large businesses (those with assets of less than $250,000 or more than $10 million, respectively), while private lenders tend to favour medium-sized firms.

Some small agencies – those whose loans outstanding do not exceed $10 million – do tend to cater to new and smaller businesses. But these programs and agencies represent only a small proportion of government financing activities.

With respect to the financial characteristics of the beneficiaries of government assistance, one might expect that when governments play a "corrective" role – i.e., when they compensate for a shortfall in the supply of funds caused by some malfunctioning in private markets – they would choose firms with good prospects of making it on their own, and in many cases they do. But a survey of 1,000 borrowing firms – some 800 of which were clients of public agencies – showed that public lending agencies tend to finance less profitable firms than do private specialized lenders. And the proportion of firms with negative rates of return is much larger among the public lenders' clients.

With respect to financial structure, the distribution of the debt-to-asset ratios of the clients of public lenders does not differ significantly from that of private-lender clients, except when the ratios are quite high. In the case of the smaller firms (assets of less than $1 million), public lending agencies have financed a larger number of less indebted concerns than have their private sector counterparts. The opposite is true for larger businesses. For instance, in the case of firms with assets between $1 and $10 million, more than half of the clients of public lending agencies had debt-to-asset ratios equal to or greater than 77 per cent, while this was true for less than one-third of private sector clients of the same size. Given that today's market deficiencies are to be found in equity finance, government corrective efforts may be misdirected if they offer loans to firms with a heavy debt load.

But it should not be forgotten that governments' "developmental" role is pursued simultaneously with their "corrective" role, and by the same agencies. In the former case, the lower economic profitability of public sector clients may be more than compensated by their high social profitability. But to ensure that government actions do indeed maximize the benefits to society, they should be part of a consistent strategy for economic development.

Too often, however, government intervention appears to lack this coordinating factor. An example is provided by an analysis of the various industrial sectors that have received government assistance. It is difficult to find a clear pattern. While the distribution of loans by industry does, in fact, differ from the industrial structure of a province, it also differs from one agency to another within a given province. For example, the Ontario Development Corporation has focused its assistance on Ontario's manufacturing sector (95 per cent of its assistance extended in 1979), while credit granted under the Small Business Loans Act has favoured the service (33.6 per cent) and trade (30.1 per cent) sectors. The Federal Business Development Bank has concentrated on firms operating in the manufacturing (31.8 per cent) and trade (24.7 per cent) sectors. A similar picture also emerges in Quebec.

UNDERSTANDING THE INDEXED MORTGAGE

Mr. Littlehouse (fictitious name), a Regina resident, called us in January after reading the last issue of *Au Courant*. He explained to us that, in 1974, he bought a three-bedroom bungalow, better known as the Royal Trust survey home No. 1, for $33,000. Mr. Littlehouse had to finance 85 per cent of the value of his house with a conventional three-year term mortgage amortized over 25 years. With an annual income of $12,569, his gross debt-service (GDS) ratio – that is, the ratio of his gross income to his mortgage payments – was initially 30 per cent. Mr. Littlehouse was intrigued by the proposed indexed mortgage and wanted to know more about it.

Mr. Littlehouse: How would I be better off with an indexed mortgage?

Au Courant: First, as you know, adjustment to inflation on the standard mortgage you have is done through a premium added to a "real rate" of interest. As a result, you initially were charged a 10.7 per cent rate. Difficulties in anticipating inflation have resulted in losses for many lenders and have prompted them to shorten the term of the loan considerably. But housing is a long-term asset which should be financed by a long-term loan. The indexed mortgage could mark the return of a long-term debt instrument. In fact, it's a long-term contract in which the parties agree on a "real rate" of interest (the rate that would have prevailed in the absence of inflation) that will be fixed for the duration of the loan. At the time you bought your house, the real rate would have been 1.8 per cent. Adjustment for inflation is made on a continuous basis by increasing or reducing the balance of the loan outstanding in accordance with an index reflecting actual inflation. Second, the monthly payments are initially much lower with an indexed mortgage.

Mr. Littlehouse: Could you go into some more detail?

Au Courant: In May 1974, you would have paid $116.24 with your mortgage indexed to the consumer price index (CPI) compared with the $264.22 you actually did pay. In March 1982, you would have paid $243.83 instead of $372.22. The burden of the loan – as measured by your GDS ratio – would have been substantially less with an indexed mortgage. (*See chart.*)

Mr. Littlehouse: Low initial payments are very nice but the monthly payments increase over time, and this scares me.

Au Courant: The increase is the result of inflation; the larger monthly payments will not outstrip the general rate of increase of prices in the economy if the indexation factor is well chosen.

Mr. Littlehouse: But what will happen if my salary doesn't keep up with inflation and I can't afford the higher monthly payments?

Au Courant: The general experience is that salaries keep up with and sometimes even run ahead of inflation. When they fall back, the situation usually doesn't last for many years. This could happen, for instance, during a recession related to high interest rates. That's when you're better off with a long-term loan instead of having to renegotiate your short-term standard mortgage. And you were quite badly stung when you renegotiated in May 1980, as mortgage rates rose to 17 per cent. Others were even less fortunate than you and had to live with a 20 per cent rate or more. Of course, individual cases can be found that don't fit the general situation. If your salary doesn't keep up with inflation, neither will it keep up with the increase in interest rates resulting from inflation. And you'll have as much difficulty in affording a standard mortgage as an indexed mortgage.

Mr. Littlehouse: But I don't like to see the balance of the loan increasing while I make regular payments.

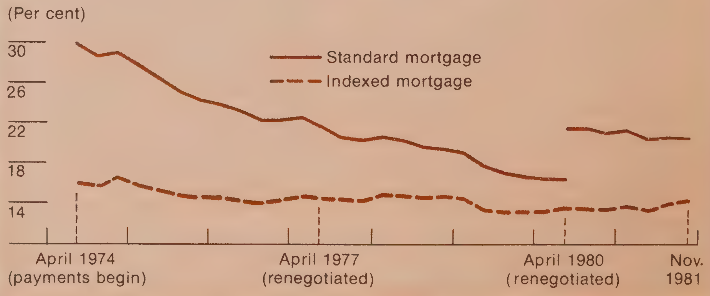
Au Courant: We understand that you want to see the equity in your house increase. But there's a trade-off between lower monthly payments in the initial period and faster equity accumulation. With an indexed mortgage, adjustment to inflation is made on the balance of the loan outstanding, thus slowing the pace of equity accumulation. (*See chart – the reader will note that it shows only the first eight years of a contract covering a 25-year period.*) Indexed mortgages will be fully amortized over the life of the loan. If you'd like to see a faster equity accumulation and you can afford it, you can make larger payments of principal. Actually, lenders will likely encourage this. They already do so in the case of variable rate loans, which pose similar questions regarding equity. If you can afford higher monthly payments and if you can find a lender who is willing to enter into a contractual agreement at a fixed interest rate, you're better off with a 25-year standard mortgage than with an indexed one.

Mr. Littlehouse: What are my chances of being able to get that kind of agreement?

Au Courant: Well, recent history has shown that in periods of rising and fluctuating interest rates, lenders are not willing to enter into long-term fixed-rate contracts. In 1981 and 1982, mortgages were given for terms of less than two years, sometimes for only six

How much income goes on mortgage payments?

Gross debt-service ratio for Mr. Littlehouse's mortgage



months. Today, the trade-off is not between a 25-year indexed mortgage and a 25-year fixed-rate standard mortgage but between an indexed mortgage and a mortgage renegotiable every two, three, or five years. Depending on your own financial situation and your attitude towards risk, you'll choose one or the other instrument. The indexed mortgage only increases the options available for financing the purchase of a home.

Mr. Littlehouse: In the end, with an indexed mortgage, I would have paid back to the lender much more (sometimes even twice as much) as under a standard mortgage. Why should I prefer an indexed mortgage?

Au Courant: Well, your question assumes that inflation will continue indefinitely. We don't share that point of view. Should inflation continue, you pay small amounts in good money now and larger sums in depreciated money later on. With a standard loan – if you can get one for a long term without refinancing at higher rates in a short period of time – you pay larger amounts from the start and in good money. Once you consider that, you may find the indexed mortgage cheap and easy to carry.

Mr. Littlehouse: My banker says that the way indexed mortgages work, the loan balance could outstrip the value of the house, particularly if the value of my house falls or does not keep up with inflation. This reduces the value of the security and increases the risk to the lender.

Au Courant: This is a common, age-old problem facing real estate investors and mortgage lenders and is not unique to indexed mortgages. In your case, the value of your home would have stayed ahead of the balance outstanding on an indexed mortgage. (*See chart.*) This would not have been the case with an indexed mortgage extended at the same time and under the same conditions for a similar property in Montreal. As a matter of fact, even with a standard mortgage, similar to yours, equity in the home in Montreal turned negative in the late 1970s. However, it's not because you suddenly have temporarily negative equity in your home that you walk away from your property. Lenders may not feel comfortable, but negative equity doesn't necessarily create a rash of defaults on mortgages. Default depends as much on the level of monthly payments or on the gross debt-service ratio as on the equity accumulated in one's home. Indexed mortgages offering initially lower GDS make the home more affordable and contribute to reducing the risk of default associated with high payments. This in turn has to be balanced against the slower equity accumulation and the possibility of negative equity. And this higher risk – if indeed there is one – may be considered when agreeing upon the "real" contract rate.

Mr. Littlehouse: How is the contract rate set?

Au Courant: The lender will offer a contract rate at a level such that the total yield of the loan is comparable to the returns from other long-term debt instruments such as term loans and bonds. In fact, operating in a competitive environment, a lender cannot set a rate but has to find the market rate through a process of trial and error.

Mr. Littlehouse: I hear that the government is considering the implementation of a mortgage rate insurance scheme. Couldn't that be of help to me?

Au Courant: The way we understand it, at this very preliminary stage, the new scheme could lower the burden of high interest rates at the time of renegotiating a loan. However, it will not solve the problem of high initial GDS ratios. To deal with this, another instrument would be necessary. Indexed mortgages may play that role.

Mr. Littlehouse: Indexed mortgages, interest rate insurance schemes, these are all directed at protecting us from the negative impact of inflation. Wouldn't it be better to get rid of inflation?

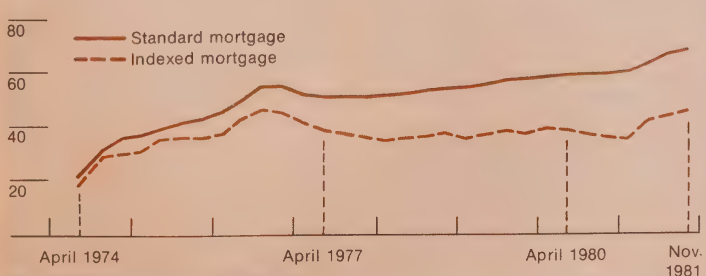
Au Courant: Absolutely. But this seems easier said than done. And even if we're able to wrestle inflation to the ground, how can we get rid of the memory of inflation? While that memory is slowly erased, the long-term loan business must be nursed back to good health. Indexation is like the orthopedic cast that allows this business to stand. Furthermore, indexed mortgages provide an insurance that, should inflation continue or come back, the long-term mortgage would remain alive. As a matter of fact, indexed mortgages are like an all-weather tire, appropriate for seasons of inflation or of price stability. In the context of price stability, an indexed mortgage becomes identical to a standard mortgage.

Mr. Littlehouse: If indexed mortgages are so good, why haven't they already been introduced?

Au Courant: They have been introduced, but not in Canada. They've been available in Denmark since April 1982, and it seems that 25 per cent of new mortgage loans since then have been indexed ones. New regulations by the U.S. Federal Home Loan Bank Board, effective August 16, 1982, permit indexed lending in the U.S. In Canada, indexed loans may need legislative support. Another difficulty is a product development problem. This is where the CMHC loan insurance recommended by the Council would be helpful.

How equity grows[1]

(Percentage of equity)

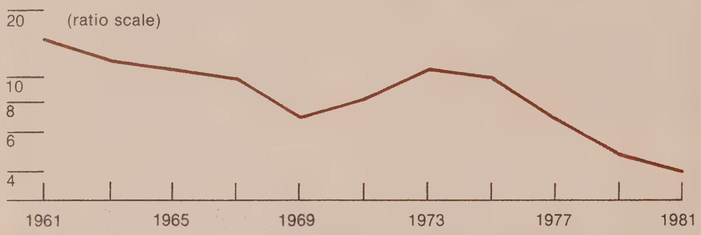


[1]Based on Mr. Littlehouse's mortgage

WHERE FARMERS GET CREDIT

Farm loans less and less affordable

Ratio of gross farm income to interest payments[1]



[1]Profits before interest and taxes, divided by interest payments

The most important change in the supply of farm credit over the last two decades has been the growing role of financial institutions. And this has occurred in the context of an eightfold increase in credit outstanding over the same period, as a strong demand for farm produce, rising land values, and increased mechanization bolstered farmers' financing needs.

In 1980, the private sector accounted for 42 per cent of long-term credit outstanding to farmers, with the share of private financial institutions amounting to more than 28 per cent. In 1961, barely 8 per cent of long-term credit outstanding originated in the private sector, with most of it granted by individuals, supply companies, dealers, and stores. In 1980, more than 77 per cent of medium-term credit outstanding was held by private financial institutions, while in 1961 this share was only 36 per cent; individuals and suppliers accounted for 63 per cent of this form of credit outstanding.

The greater importance of financial institutions is, to a large extent, attributable to the rapid increase in bank credit during the 1970s. The chartered banks' share of short-term credit outstanding rose from 61 per cent in 1971 to 77 per cent in 1980; their share of medium-term credit rose from 40 per cent to 58 per cent over the same period. Although banks entered the long-term farm credit market only recently (1977), their share has risen sharply since.

This increase in the relative importance of chartered banks in farm credit and, more generally, the renewed interest of financial institutions in farm lending can be explained by a brief look at some of the past events that have affected financing in this sector.

Private financial institutions became involved in farm finance at the turn of the century. Farmland was then considered to be a good security, and building societies as well as insurance companies were offering mortgage loans to farmers. The Depression of the 1930s and the various debt adjustment acts, however, drove many private financial institutions out of the farm finance market.

The high risk of farming was another reason for the reluctance of financial institutions to participate in farm finance. Although government introduced a number of measures during the 1930s and 1940s to reduce some risks, others remained high until the late 1960s.

In addition, a lack of specialized knowledge on the part of many lending institutions, the self-imposed ceiling on interest rates adopted by lenders to avoid public hostility, and the regulation preventing mortgage lending by banks contributed to the development of a credit gap in farm finance. This gradually led governments to increase their participation in agricultural finance.

In the late 1960s and early 1970s, there occurred several changes that increased the participation of private institutions in farm finance. Among these were several years of good crops, which improved the returns on farm activities, and amendments to the Bank Act. The agricultural sector thus became a fertile field for financial institutions. Banks and credit unions hired agronomists to assist in the operation of newly established agriculture divisions. They were ready to move in, but could not compete with the low rates offered by government lending agencies. In 1977, budgetary restrictions moved governments to adopt a more conservative approach to the provision of public financing. Since farmers were at the same time substantially increasing their demand for funds, the private institutions moved in to fill the void – essentially closing the generalized credit gap prevalent in the 1940s and 1950s.

Thus, as we enter the 1980s, farmers can generally obtain sufficient financing from private financial institutions if they are willing or able to accept market conditions. But many operators cannot afford the interest rates prevailing in capital markets, simply because their operations cannot generate sufficient cash flow to cover the payments. As shown in the chart, the interest coverage ratio – i.e., the ratio of gross farm income to interest payments – declined dramatically between 1961 and 1980. Of course, cyclical factors – such as weak prices and high interest rates – provide some explanation. However, as already discussed (*Au Courant*, Vol. 3, No. 3), this cash-flow problem – which many call agriculture's number one problem – stems from the structure of the industry and particularly from the fact that a large part of the farmer's income often accrues in the form of a capital gain on land and is thus not available to make cash payments to creditors.

Continued government subsidized lending is not a viable long-term solution. Not only are subsidies costly but, when attached to mortgage loans, they also contribute to an increase in the price of land, with the improvement in cash-flow position still not sufficiently large. In the context of greater private sector participation in farm finance, the farm indexed mortgage proposed by the Council may help those operators who cannot afford standard mortgages because of limited cash flow, particularly because of inflation.

NEED FOR CARE IN SUBSIDIZING LOANS

In 1980, some businessmen were receiving public financing at 10 per cent, and some farmers at 8 per cent or even less, while the prime rate fluctuated between 12.5 per cent and 18 per cent. Under its co-op program, the Canada Mortgage and Housing Corporation reduced the cost of long-term mortgage loans to 2 per cent.

By subsidizing credit, our governments have shielded some businessmen, farmers, and homeowners from the impact of high market interest rates. In doing so, governments aim at modifying the industrial structure, at maintaining the viability of Canadian farms or at making housing affordable.

On the other hand, the high interest rates were partly the result of government efforts to slow the pace of inflation. Under such circumstances, subsidized loans may be viewed as an attempt to fine tune government stabilization policies. But in view of the scale of subsidization, the question arises as to whether this attempt at fine tuning is not counterproductive. For instance, when stabilization efforts call for increased market rates, isn't it possible that, in order to be effective, interest rates would have to be pushed higher than in the absence of public subsidized credit?

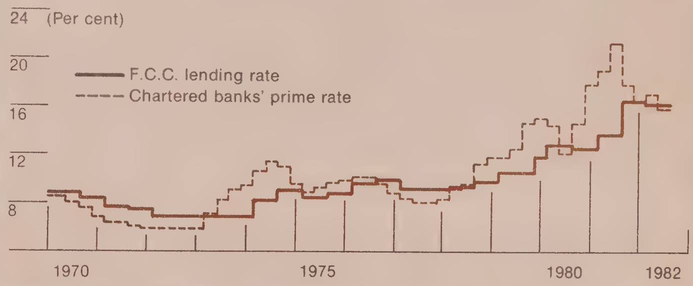
In pursuing its stabilization objectives, government can generally turn to monetary policy and to fiscal measures. As a rule, these two policy instruments are used simultaneously, either in a complementary fashion or in opposition; both interact with subsidized credit.

Looking first at monetary policy implemented – directly or indirectly – through a change in interest rates, we find that the interaction between government stabilization efforts and subsidized loan and loan guarantee programs is quite visible.

When market interest rates are increasing, the difference between the cost of financing at the market rate and the subsidized cost often, if not always, widens, thereby weakening the overall restraining effect of high interest rates. On the other hand, when market rates are decreasing, the gap between the costs of subsidized and unsubsidized borrowing narrows, thus probably weakening the overall expansionary effect of the lower rates. Such variations in the difference between the cost of financing and the market rate occur when the rates charged by public loan agencies are not affected by market fluctuations. Even when the public agencies periodically adjust their lending rates, the latter always lag behind the fluctuations of the market rates, thus widening or narrowing the gap between the two.

Rising rates bring higher subsidies

Monthly evolution of chartered banks' prime business loan rate and the Farm Credit Corporation's lending rate, 1970-82



A comparison between the Farm Credit Corporation lending rate and the banks' prime rate illustrates this case (see chart). And one should bear in mind that the actual gap is larger than that shown in the chart, since banks apply rates to farmers that exceed the prime rate by 0.5 to 2 percentage points.

The dampening effect of subsidies on government stabilization efforts will depend, however, on the relative importance of the subsidized activities, on the degree of subsidization, and on the reaction of those who are subsidized to variations in interest rates.

Government stabilization policies may also be carried out through an increase or decrease in government expenditures. An expansionary policy is implemented through an increase – and a restraint policy through a reduction – in spending levels. Research conducted for the Council shows that, in the short run, a financial subsidy increases the effectiveness of stabilization measures carried out through changes in government spending.

A somewhat simplified explanation runs as follows. Higher government spending results in an increase in economic activity, which in turn leads to a greater demand for funds by individuals and firms. This increased demand exerts upward pressures on interest rates, which may dampen somewhat the initial impact of the increase in government expenditure. The provision of a financial subsidy reduces this secondary dampening effect. By sheltering some borrowers from the effect of upward pressures on interest rates, the subsidies magnify the expansionary impact of the increase in government spending.

In the long run, however, one cannot exclude the possibility that the cumulative effects of loan subsidies on government deficits will have paradoxical results. Over the long term, loan subsidies can reduce the effectiveness of stabilization measures. In certain circumstances, notably when interest rates are very high, a subsidy could even reverse the direction of the effect of stabilization measures: instead of stimulating economic activity, an increase in spending could have a restrictive impact.

Many factors and policies interact with government stabilization efforts. Public subsidized credit is one of them. As we have seen, the interaction between the two sometimes reinforces – but sometimes also works against – government stabilization efforts. This interaction should be kept in mind when stabilization policies and credit subsidization policies are designed.

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Economic Council of Canada

Volume 4, No. 1 1983

Restoring prosperity: new Council report

Canadian gas a bargain

More information on the labour market

Update on regulatory reform

PUBLICATIONS

New Council report

Productivity has not grown in Canada for eight years now, an unprecedented situation with serious implications for living standard growth. What might be done about the problem is examined in this recently published Economic Council report, which is available in bookstores across the country, and may also be ordered from the Canadian Government Publishing Centre (see information below).

The Bottom Line:Technology, Trade, and Income Growth (EC22-113/1983E; $8.95 in Canada, $10.75 elsewhere).

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au courant

Volume 4, No. 1 1983

The Bottom Line: Technology, Trade, and Income Growth

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Gas at bargain price in Canada

Canada has been able to count on energy at bargain prices for the past decade, unlike some of its industrialized trading partners.

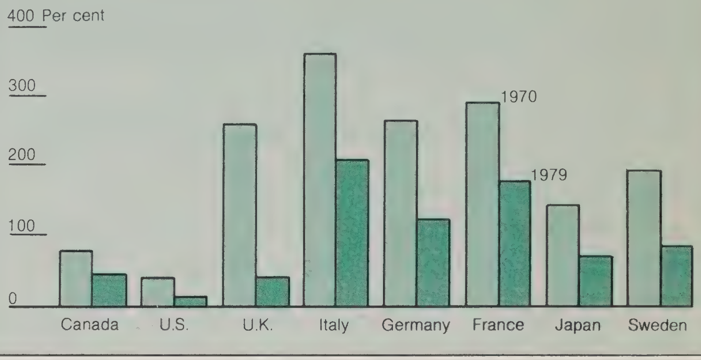
That message emerges loud and clear from a review of energy pricing and taxation trends between 1968 and 1979 in eight industrialized countries – Canada, the United States, the United Kingdom, Germany, France, Italy, Sweden and Japan – carried out by Council economist Bobbi Cain, assisted by Pat Nevin.

Comparing energy prices across such a wide range of countries presents certain problems, which Cain resolves in the following manner. First, she chooses for comparison purposes an energy source widely used by all the countries in question, and one for which price and taxation data are available – namely, standard low octane gasoline. Secondly, she determines the gasoline price for each country in nominal terms – that is, in terms of local currency. Then, in order to calculate the real or inflation-adjusted gasoline price in each case, she deflates each country's nominal price by its consumer price index. Finally, to make cross-country comparisons possible, Cain converts both nominal and real prices to a common currency, the U. S. dollar.

The first chart illustrates how the eight countries stack up in terms of real gasoline prices at the beginning and end of the survey period. Cain advises some caution in interpreting these results, however, since they reflect exchange rate changes as well as price increases. (For example, even though Italy had the greatest real price increase measured in lire, that currency's devaluation meant little price movement in terms of U. S. dollars.) But Canada's standing is clearcut, nonetheless; along with the United States, it records the lowest real gasoline price, and the slowest rate of price increase of the entire sample. Nominal prices in the two North American countries were also well below those elsewhere, Cain observes.

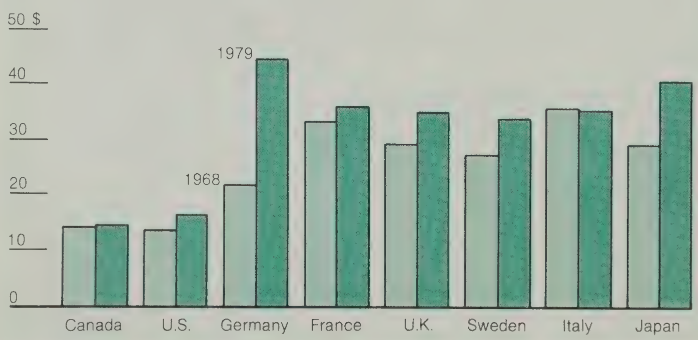
Effective gasoline tax rate

Value of gasoline tax per litre, divided by the net-of-tax price per litre.



Real gasoline prices

(expressed in 1975$ U.S. per 100 litres of standard low octane gasoline).



Domestic gasoline taxation policies in industrialized countries have been the subject of concern recently, Cain says. So in addition to her analysis of pricing trends, she also takes a look at changes in the effective rate of gasoline taxation (measured as the value of gasoline tax per litre, divided by the net-of-tax price per litre) across the eight countries.

As the second chart indicates, taxation rates were universally lower in 1979 than at the beginning of the decade. The steepest decline occurred at the time of the OPEC (Organization of Petroleum Exporting Countries) price explosion in 1973-74, an indication, Cain says, that governments then used taxation policies to shield the consumer from the full impact of gasoline price increases.

Although Canada's effective taxation rate did not drop as sharply as those in some other countries, it retained its place as a country with one of the lowest rates throughout the period. By the same token, Italy – the heaviest taxer relative to other countries in 1970 – remained in that position at the end of the decade. In contrast, Sweden and France, two of the most heavily taxed countries in 1970, witnessed a dramatic decline in effective rates over the period (with some upswing on France's part in 1979), so that in 1979 they ranked among the moderately taxed nations.

"International Energy Comparisons: A View of Eight Industrialized Countries," by Bobbi Cain, assisted by Pat Nevin. Discussion Paper No.222.

Productivity has not grown in Canada for eight years now, says a recently released Council report. That situation is unprecedented, and potentially disastrous for living standards growth, warns the Council. It could lead to a static society much like what is considered to have existed during the Middle Ages. What might be done about the problem is examined in The Bottom Line: Technology, Trade and Income Growth.

Although Canada's productivity today is very close to record levels, in that it is only 3 per cent below its all-time high reached in 1978, a serious problem has arisen concerning its rate of change. Between 1950 and 1973, productivity – measured reasonably conventionally in the report by real gross national product (GNP) per person employed – rose at what was, for Canada, an historically handsome rate of 2.6 per cent annually. But from 1973 to 1981, the average rate of productivity growth was zero.

If this situation continues for very long, growth in real GNP per capita – that is, in real income, or living standards – could also decrease to zero, or even become negative. As it is, during the 1973-81 period, growth in real GNP per capita dropped to half of its previous postwar average – an annual 1.5 per cent compared with 3.0 per cent earlier.

Growth in living standards can occur in four ways:

- Real income per capita rises when an economy moves out of a period of recession into a period of full employment. Because more people who want to work are able to do so, and because underutilized plant and equipment are used more fully, total production grows and, with it, total production per capita and real income per capita.
- Real income per capita rises when the proportion of the population that is working increases as the result of higher labour force participation rates, or of a rise in the proportion of people of working age.
- Real income per capita rises when greater advantage is taken of trading opportunities. The pattern of production is then shifted towards goods and services that can be sold abroad, allowing the purchase of imports.
- Most significant and apart from any changes in these three areas, increased efficiency can lead to greater national output, so that real income per capita rises. Such an increase in efficiency is what is meant, in the report, by "greater productivity." Productivity can appropriately be measured by output per person employed, although this is not the only possibility, and it in no way implies that workers are responsible for productivity problems.

Improved productivity was a powerful force for increasing living standards until the early 1970s; since then, that influence has disappeared.

The last few years have been especially traumatic for real income growth, says the Council, because only two of the forces favourable to such growth – greater labour force participation and greater trade – have been in play. A protracted recessionary period in the past decade has slowed growth in living standards, compounding the problem posed by the disappearance of productivity growth.

The Council has, in the report, focused on two forces as important "engines" of productivity and income growth – technical advance and international trade.

Since much of Canada's productivity and income growth used to come from technical advance, measures to restore it or speed it up where it still exists could regain some of the ground lost. The Council has therefore examined closely what might be done in this area. Increased trade can play an important role in living standards growth, too, but at the same time it creates problems of changes in industrial structure and threatens jobs. The Council examines trade policy with all these considerations in mind, and presents new evidence relevant to striking the proper balance among them.

A major problem is that of diagnosing the causes of the productivity slowdown itself. Only some causes are known at present; others are difficult, if not impossible, to measure precisely.

A comparison of the productivity growth rates for 39 industries between the 1961-73 and 1973-78 periods shows that the Canadian productivity slowdown, even in its initial stages, was widespread. Productivity growth actually improved in some industries, such as services to mining and communications, during the 1973-78 period, but 26 industries experienced slower productivity growth. The slowdown was especially severe in agriculture, mining, rubber and plastics, primary metal, metal fabricating, nonmetallic products, transportation and storage, electric power and gas, and wholesale trade – most of which recorded negative growth.

Canada is not alone in facing this problem. All of the major nations of the Organisation for Economic Co-operation and Development (OECD) experienced a significant slowdown in productivity growth over the 1973-80 period. Although substantial productivity growth continued in Britain, West Germany, France, Italy and Japan, the rates were only about half of what they used to be.

As a result, perhaps the most important lesson to be drawn from the facts about the slowdown is that any solution must apply to nearly all industries and nearly all countries.

One significant implication is that it is just as important to restore or speed up productivity growth in industries that supply services as in industries

that supply goods, in industries that don't compete with foreign producers as in industries that do, and in industries that are outside the market system as in industries that belong to it. Industries that provide services (transport and communications, education, and so on) are roughly half again as important for the gross domestic product (GDP) as industries that produce goods. To focus entirely on goods production or, even more narrowly, on manufacturing alone would therefore severely restrict the scope for productivity improvement.

The international nature of the productivity slowdown should also warn us against adopting too narrow a perspective in seeking both explanations and remedies. With a broader perspective, the emphasis on technical change and international trade as routes to productivity improvement is a quite natural one. Indeed, a reasonable test of any approach, says the Council, is whether it would apply not only to Canada, but also – for example – to France, Britain, West Germany, Japan, and the United States. Approaches specific to Canada can be used, but they aren't likely to be sufficient on their own. The methods used to analyse Canada's problem should, in principle, also be applicable to other countries if they are to have the best chance of success.

Balancing priorities

Although the full implications of long-term zero growth in living standards are not yet known, some of the potential consequences are only too clear. One of these concerns the serious question of income distribution.

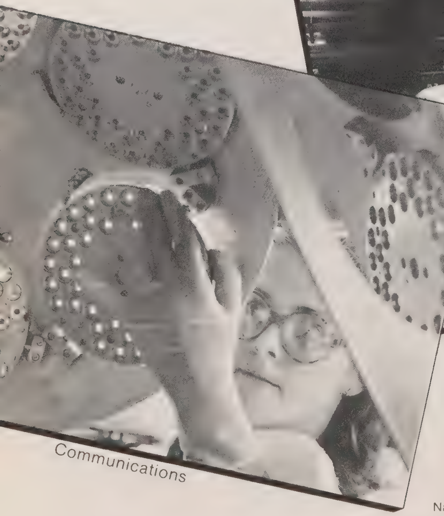
In the past, it was possible to achieve many desirable distributional changes by making use of the dividend that real income growth provided. Simply by using part of this dividend, social programs such as old-age pensions and unemployment insurance could be improved considerably. This could be done without cutting into people's living standards, simply by using part of the growth in living standards that they otherwise would have had.

This is obviously a less painful and socially easier process than achieving the same distributional goals by forcing those citizens not directly benefiting to accept reductions in living standards. For any future improvements of this kind, in the form of government services or transfers such as pensions and unemployment insurance benefits, after-tax incomes may have to fall if zero productivity growth persists – which is why the problem is so serious.

Living standards growth is thus doubly desirable: for itself, and for the easing of distributional problems that it brings. Unfortunately, policies that can increase living standards without sacrificing other goals in any way are almost impossible to achieve; trade-offs have to be made in most cases. Policies that can improve living standards without undue cost, on the other hand, are easier to devise.

One "cost" often feared as a consequence of the productivity improvement needed to raise living standards is lost jobs. Improving productivity can destroy jobs if total output remains unchanged. Fewer people are needed to produce the output, so job numbers go down. But if output rises at the same time as productivity, and in rough proportion, few – if any – jobs will be lost. And, in the majority of real-life instances of productivity improvement, says the Council, output does usually rise by roughly the amount needed to avoid job loss. This is not to say that productivity improvements never cause job loss. They certainly do, at least for a while – when workers who are displaced seek new jobs, for example – and sometimes the loss is permanent if the displaced workers have redundant skills and can't retrain. Therefore, any job loss implications stemming from policies aimed at improving productivity must always be carefully considered in the actual application of policies. But the historical and other evidence indicates that it has generally been possible in the past to improve productivity and, as a result, living standards without undue cost in terms of unemployment.

Technical advance in the service sector



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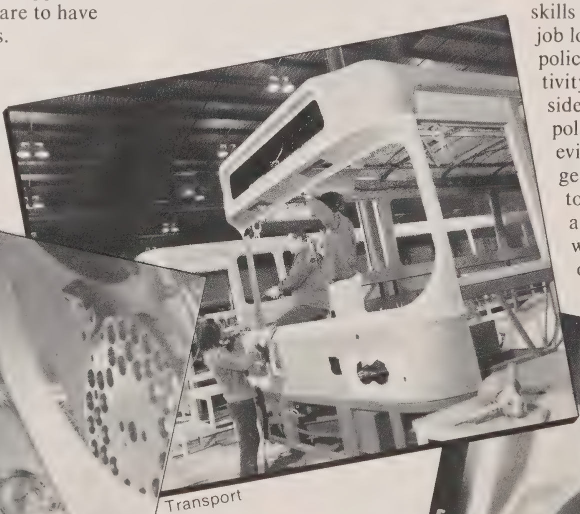
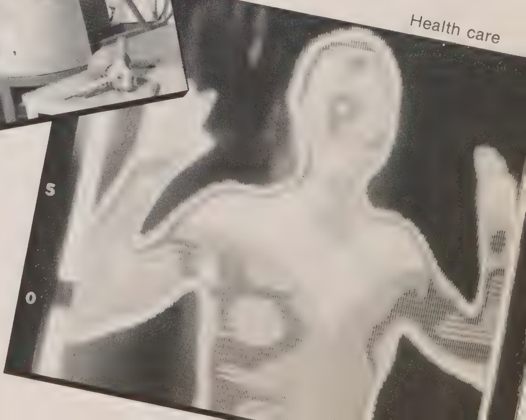


Transport



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Technical advance key to growth

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The universal product code: technical know-how at its best

Technical advance can be viewed as the introduction of new ideas, processes, and products, or of improvements to existing practices, processes, and products. It is a major source of productivity growth, although not the only one. While estimates of its relative importance as a major source of economic growth in modern times vary, few would deny that it plays a key role.

According to the Council, four major characteristics of technical advance must be considered in any search for appropriate policies to speed it up and thus enhance productivity growth.

The first of these characteristics is that – as mentioned earlier – technical advance occurs in all sectors and across all industries. Industries supplying services (for example, wholesale and retail trade; finance, insurance and real estate; transport and communications; education; health care; and government administration) are about one and a half times as important for GDP as industries supplying goods. As a result, improving productivity growth in both these sectors is important.

A similar situation applies in the case of trading and nontrading industries – the latter being those that do not face much, if any, foreign competition. A focus on improving productivity growth in trading industries only – which is often stressed in current discussions of Canada's competitiveness in world markets – would risk missing some very substantial opportunities for improving productivity growth in the nontrading industries, and hence living standards growth, since the trading part of the economy represents only about one-third of the whole.

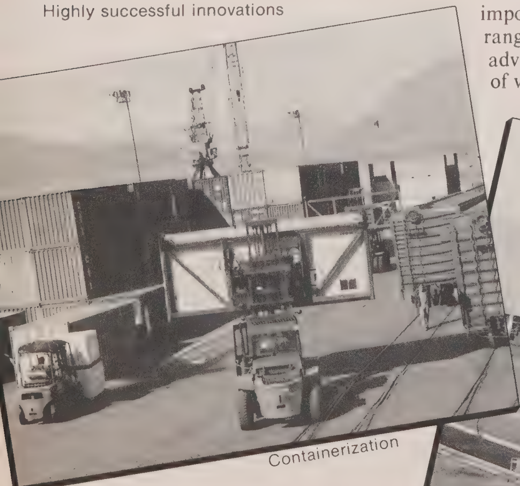
Again, we have market and nonmarket industries. The difference between the two is that the goods produced or services supplied in nonmarket industries are provided free or almost free of charge. The nonmarket sector includes education, health care, and municipal, provincial and federal government administration. It is a large sector, almost the same size as all of manufacturing. While it is difficult to measure productivity growth in this sector, it seems certain that improving productivity would contribute much to growth in living standards.

Innovations studied in the course of Council research illustrate the importance of keeping a wide-ranging perspective on technical advance from the sectoral point of view. Some examples include: in transportation – containerization; in retail trade – the supermarket; in the restaurant trade – techniques of fast food delivery; in steel making – the basic oxygen process; and in machine tool production – computer programming.

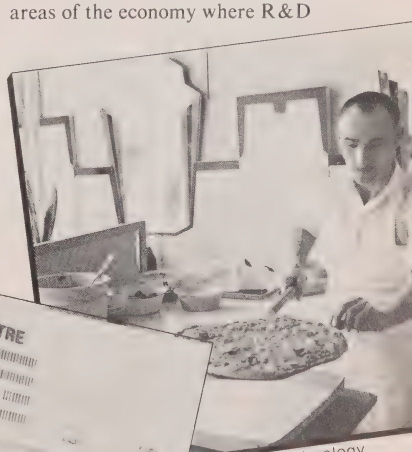
The second major characteristic of technical advance is that it is not solely a consequence of applied research and development (R&D); it occurs through a variety of activities. Applied R&D by industry and government is important, but so are the activities of individual inventors and the numerous day-to-day changes in products and processes made as a result of smart business thinking. These range from major breakthroughs, such as containerization, fast food technology and, in earlier times, the concept of assembly line operation, to a host of minor improvements whose cumulative impact is of great importance. Many opportunities for faster productivity growth would be missed if this second characteristic were unduly neglected.

The importance of applied R&D activity in comparison with all the other activities that create technical advance is an unknown. R&D activity is obviously very important, but nonetheless produces only a part of technical change. It is certainly true that much technical advance occurs in areas of the economy where R&D

Highly successful innovations


Containerization

The shopping centre


Fast food technology

National Film Board

spending is known to be very low – such as transportation, retail trade, banking, and construction.

A third important characteristic of technical advance is that it occurs all over the world. As in other areas, the world technological system is interdependent. Firms in all countries contribute to, and draw upon, an international pool of technology. It would be unrealistic to expect that any one country could consistently surpass all others in the innovative application of new and existing knowledge in all fields. Canada, as a small economy, accounts for only a small part of worldwide R&D. But, says the Council, we should be trying to exploit the advances of others – as well as our own – to the greatest extent possible.

The fourth consideration about technical advance is that its diffusion into Canada from other countries and throughout Canadian industry can be surprisingly slow. This is also true in the case of technical advances developed in Canada.

A Council survey of innovation in five industries showed that the median lag for adoption of product and process innovations was five years following first world use. In other words, for over 50 per cent of the imitative technologies, the lag was five years or longer; in some cases it exceeded 10 years. For example, a process for the continuous processing of polystyrene developed in Italy was first adopted by a Canadian firm seven years later; blast furnace oxygen enrichment, which was in wide use throughout Europe, the United States, and Japan, was first adopted in Canada 22 years after being first developed abroad; and the vacuum casting of uranium was developed in Germany and the United States 31 years before adoption in Canada. There is thus an important role for public policy in assessing whether unnecessary lags exist in the diffusion of new technologies and in eliminating them where they do exist.

As mentioned, not only do lags exist in the diffusion of new technology into the country, but such lags are also substantial for diffusion within the country.

Regional case studies carried out by the Council showed that the shopping centre – a service sector innovation – was first adopted in Alberta. Adoption followed in Ontario one year later, in British Columbia two years later, and in Quebec, Saskatchewan, and Manitoba between four and six years later. In the case of the Atlantic provinces, the lag was 16 years.

It is true that obstacles to the spread of technical change exist, as do slow adopters or laggards. However, substantial benefits could be realized, says the Council, if the diffusion process into and throughout Canada could be speeded up.

Call for policy mix

The facts about technical advance imply that policy towards it in Canada is too narrowly focused, in two quite distinct senses, says the Council.

First, policy attention emphasizes mainly the domestic production of new technology, through applied research and development expenditures, while badly neglecting two other important ways of speeding up technical advance. More research and development would be good, but so would more stress on these other two methods. One of them is the more rapid adoption of new technology from abroad, where the great majority of new products, processes, and techniques originate, and its adaptation as necessary to Canadian conditions. The other is the faster spread, or "diffusion" of new, "best practice" techniques, wherever originating, from their first Canadian user to all potential users in the country.

Second, policy concentrates on manufacturing, paying virtually no attention to the enormous nontrading sector of services and construction. That is like trying to make a jet plane fly better by overhauling only one of its four engines.

Eight Council recommendations in the area of technical advance give expression to these two concerns. Adaptation and diffusion are the burden of the Council's first recommendation:

- Federal and provincial policy towards technical change should put greater emphasis on *a*) the adaptation of new ideas, products, and processes already in use abroad but not in Canada, and *b*) on the diffusion of new ideas, products, and processes, whatever their origin, to other firms and regions in the country after their first successful application.

Adaptation and diffusion in relation to the service sector are highlighted in the next four recommendations, the first two covering the "nonmarket" service industries, and the second two the "market" service industries:

- Provincial governments should take steps to ensure the efficient adaptation of new operating techniques, whatever their country of origin, as well as the diffusion of existing "best practice" techniques within Canada, in such provincial and municipal nonmarket industries as health care, education, and public administration.
- In a renewed effort to spread "best practice" administrative techniques for the federal government across the nation, the federal Treasury Board should reinstate previous requirements that government departments carry out productivity comparisons.
- Trade associations in the service sector should regularly inform member firms about new ideas and "best practice" technology and management methods in use in Canada and abroad.
- Government should provide financial assistance to these associations specifically for this purpose.

Two further recommendations rest on evidence regarding the role of multinationals in adoption and adaptation on the one hand, and of the patent system in diffusion on the other. They are:

- The Foreign Investment Review Agency (FIRA) should give much greater importance to the introduction of new technology and the enhancement of productivity when considering applications for new investment by foreign corporations. New technology "imported" in this way could significantly speed up the processes of adoption/adaptation and diffusion.
- The Patent Act should be amended in order to give the Patent Office a mandate to establish and operate a patent technical information service to promote innovation in Canada. This could be helpful in aiding faster but still economical adaptation of new technology, particularly for small domestic firms.

The eighth recommendation reiterates the Council's concern that greater emphasis than previously placed on adoption and diffusion should not be at the expense of present government plans to increase R&D spending:

• The Council endorses the federal government's target of raising R&D spending to 1.5 per cent of GNP by 1985, considering this a minimum requirement, and recommends that the target be disaggregated by industry.

Rationale for government support

Governments influence technical advance directly through grant and subsidy programs, tax measures, contracting out to industry of government R&D requirements, R&D work in government laboratories, and support of university research. There are also many indirect channels of influence.

The basic rationale for the more direct support measures is the argument that not enough technical advance will occur as a result of private market incentives. One way of looking at this is the following. We might consider a project which, if undertaken, will generate technical advance; this might consist of a project to develop a new type of aircraft, for instance. With regard to any such project, we might ask two questions:

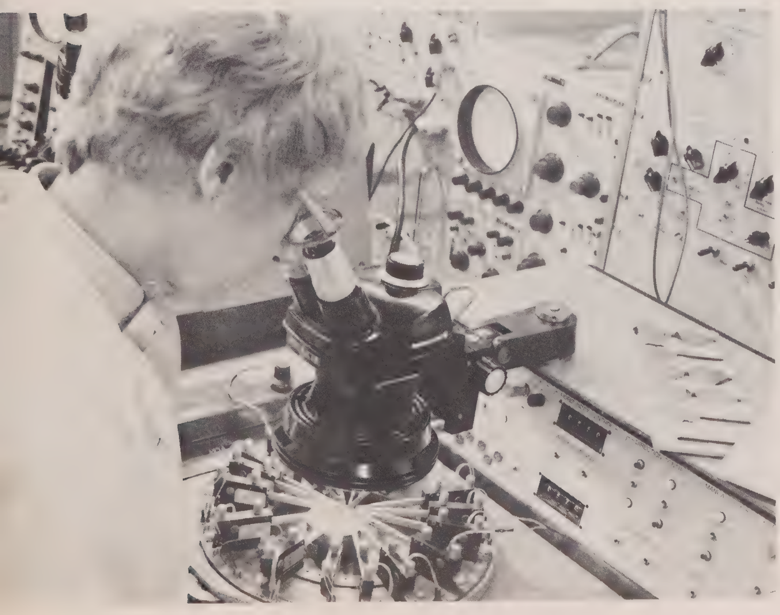
• Would the project, if undertaken, have "risk-adjusted" benefits to society that exceeded its costs?

• Will the private sector fail to undertake the project because its "risk-adjusted" benefits to the private individuals or companies concerned are judged to be less than its costs?

The answer to both of these questions should be yes if there are to be good grounds for government assistance. On the first question, we should not assist projects if, from a social point of view, they cost more than they are worth. On the second question, we should not assist projects if they would go ahead anyway, without assistance.

Support for R & D: weighing the costs and benefits

National Film Board



Moreover, if assistance is given, it should be just sufficient to induce the private sector to undertake the project, but not over-sufficient.

This is not to say that the actual outcome of every assisted project must be such that benefits always exceed costs. In a field like research and development, this simply wouldn't make sense. It is not possible to find "winners" – especially "big winners" – without inadvertently picking "losers" as well. Hence the reference to "risk-adjusted" benefits. But there should be a reasonable attempt to ensure in advance that the benefit of successful projects will be high enough to cover both their costs and an allowance for the inevitable failures.

The Council examines several important programs of assistance to R&D, such as the Enterprise Development Program (EDP) and the Defence Industry Productivity Program (DIPP), to discover if these basic cost-benefit principles are adhered to, and if not, if

they could be. The conclusion is that it is far from clear that these basic principles are being followed.

The Council therefore makes a key recommendation: that subsidies be awarded to technical innovation projects only when two conditions are met: *a*) the projects must be worthwhile to the country; and *b*) the subsidies must be necessary, in the sense that the projects would not provide a reasonable profit without them.

Implementing this obvious-sounding but important recommendation would be a great improvement. The research results also show that some other changes would be highly desirable. Four that the Council embodies in actual recommendations are:

- Subsidy program administrators should make sure that subsidized projects are incremental not only to the firm but also to the industry to which the firm belongs – this to ensure that worthwhile projects elsewhere are not displaced.
- Greater care should be taken, when assessing the benefits of projects that are actual or potential recipients of R&D subsidies, to evaluate the incrementality of additional jobs created.
- There should be two categories of subsidies in the DIPP. The smaller category should include subsidies for specific projects that should meet the two conditions that apply to innovation projects subsidized under other programs. The larger category of subsidies should be aimed at keeping certain firms deemed essential in the defence production field that might otherwise leave it because of insufficient profits. The subsidies should be calculated to offset this insufficiency.
- Where the object of a DIPP subsidy is to ensure that the recipient firm remains in the defence production industry, an appropriate board, responsible to Parliament, should be created to oversee the relationship between the firm and the subsidy program.

Manufacturing copes well with competition

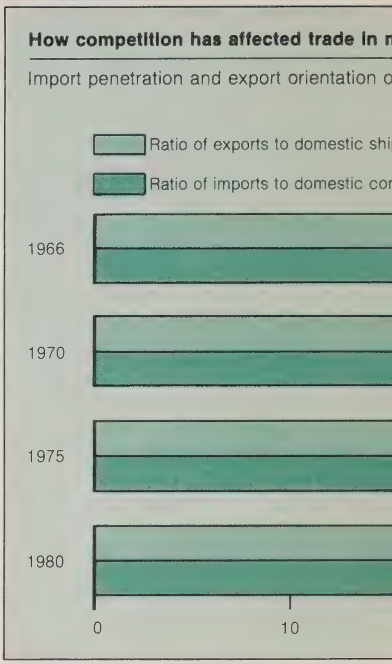
Opinions vary as to whether a faster approach to free trade would be good for Canada. Most would agree that multilateral trade growth has helped Canadian living standards grow in the past and could do so in the future – an important consideration in light of the recent years of zero productivity growth and its implications for living standards.

There is disagreement, however, on the question of how harmful the other effects of trade growth may be in changing the nature of Canada's industrial structure and forcing workers out of jobs and firms out of business.

In the third section of its report, the Council looks at these questions in depth, first considering whether trade policy might need to be modified to take account of the emerging effects of growing trade volume on the size and nature of Canada's manufacturing sector. Is our manufacturing sector losing out in competition with foreigners, in both export and home markets, and at risk of shrinking drastically? On the question of exports in particular, is there, at present, a special crisis that justifies further government support to exports, or enrichment and extension of the types of support already available? Is there evidence of incipient "deindustrialization?"

The Council finds – contrary to fears that have been expressed in several quarters – that the manufacturing sector has not withered, and is not withering, in the face of increasing international competition. Greater import penetration of our markets has indeed occurred, but it has been matched by greater penetration of Canadian manufactures in foreign markets, through exports. The conclusion holds at a very fine level of disaggregation. Even in the case of high-technology manufacturing, as opposed to manufacturing in general, Canada is not losing out, and, says the Council, is a far cry from deindustrialization. In its judgment, "there is no evidence of this process even beginning."

Nevertheless, many people are advocating a special new kind of government assistance to exports – the public funding of R&D in exporting industries. A special study in this area was therefore done. It concluded that R&D expenditures in the firms sampled showed a positive correlation with propensity to export. However, the research found no measurable relationship between government support of R&D activities in the private sector and effective performance in export markets. It thus appears that other factors, as yet undefined (but possibly including such elements as "managerial leadership"), may enter the picture – in which case government support for R&D would not, of itself, necessarily have any effects on exports.



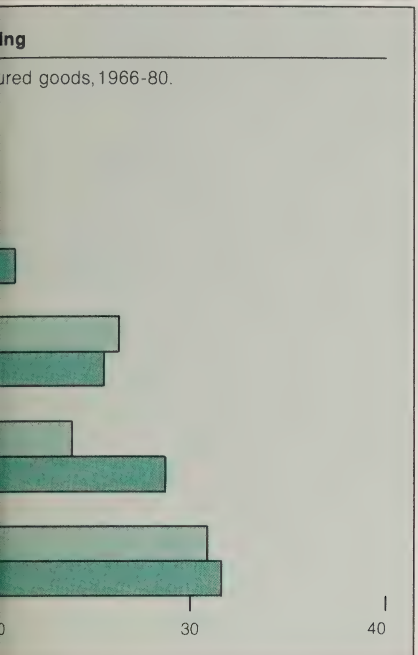
Adjusting to import competition

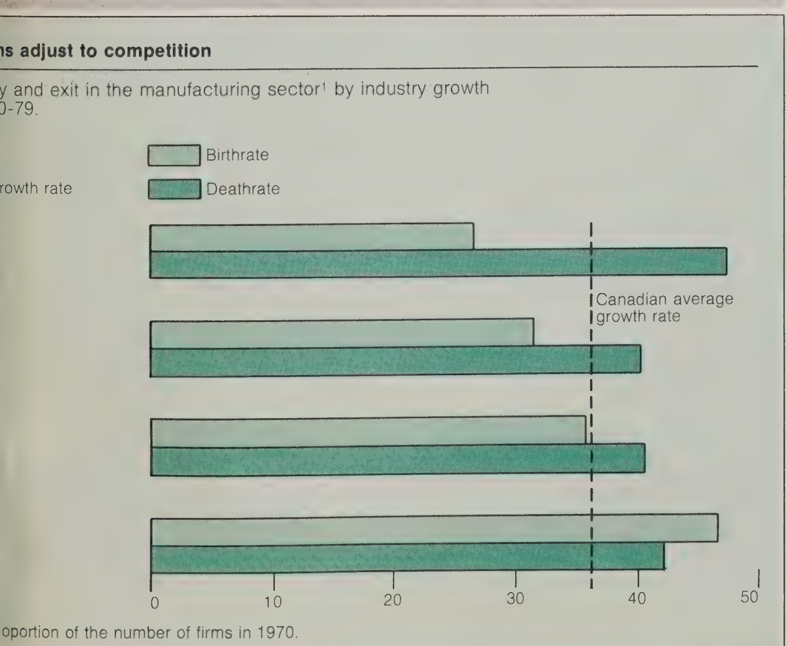
The increase in import competition that has taken place over the past two decades has had important repercussions – both positive and negative – on firms and workers in Canada.

On the positive side have been the gains from increased trade – in particular, higher real incomes resulting from greater specialization, longer production runs, larger plant scale, and an increase in productivity.

On the negative side has been the need for firms to adjust to import competition (with some even going out of business) and for workers displaced by this competition to find new jobs.

Since the exposure of the Canadian manufacturing sector to trade and competition increased during the 1970s, the Council took a close look at





the resulting adjustment process for both firms and workers.

The data base for the analysis of firm adjustment covers two years – 1970 and 1979 – and accounts for virtually all manufacturing employment in those years. This allows a detailed study of the entry and exit patterns of firms and, among other things, of how the entry/exit process reacts to trade.

Firms within each industry were divided into three categories: new firms, or "births" (those that existed in 1979 but not in 1970); exiting firms or "deaths" (those that existed in 1970 but not in 1979); and continuing firms (those that existed in both 1970 and 1979).

A surprising and little-known fact, says the Council, is that "birth rates" and "death rates" are very high. This is true of the average Canadian manufacturing industry, but it is also true of other industries and in the United States. The picture is one of an extremely dynamic industrial structure, with thousands of entries and exits over the decade.

Given these high business birth and death rates in the normal course of events, there are possibly two extreme ways in which any industry might adjust to the need for contraction or expansion, such as might result from increased foreign competition. For instance, contraction could occur, in principle, either through a rise in death rates or a decrease in birth rates. A significant finding of the analysis is that the dominant mode of adjustment, whatever the degree of contraction or expansion of an industry, takes the form of shifts in the birth rates of firms, with changes in death rates playing a much lesser role.

In sum, the major adjustment mechanism to variation in industry growth rates occurs in the form of changes in birth rates, implying that the conventional picture of a rather traumatic adjustment process is somewhat misleading.

Concerning the impact of changes in imports and exports and in tariffs on entry and exit over the 1970-79 period, it might be expected that increases in imports – and the competition they tend to generate – would reduce entries and increase exits, while increased exports would be likely to produce the reverse. Generally, this was the case. There was one exception, however, in that, as imports increased, there was less rather than more exit, a phenomenon difficult to explain as it is in contradiction to apparent "common sense."

Because there are more Canadian than foreign-owned firms, they bear the brunt of increased import competition; at the same time, they are able to take advantage of opportunities provided by increased exports. It could be argued, then, that this rationalization process should boost the domestic sector's competitive position.

The other side of the debate about the adjustment of industry to increased trade focuses on the employment experience of those who lose their jobs, either because of plant shutdown or a permanent reduction in activity. Of all the aspects of the adjustment process, perhaps the most significant, from a public policy viewpoint, is the possibility that considerable social and economic dislocation will result from freer trade. However, it would appear that adjustment is less severe than might have been expected.

The Council found that about two-

thirds of displaced workers found work in the 1970s, mostly in other industries. And the spells of associated unemployment, while not exceptionally short, were not exceptionally long either. This would seem to imply that coping with labour adjustment problems in a constructive way, through policy, may not be as difficult as has been thought up until now. At the same time, a minority of workers do have serious trouble in finding alternative employment; in the Council's view, these workers deserve special help.

These conclusions remain important and useful, says the Council, in spite of the fact that they are based on evidence from the 1970s, when unemployment was much lower than at present.

Finally, an important facet of the impact of greater trade exposure is its implication for efficiency and productivity. Data suggest that the productivity gains much discussed in the free-trade literature of the 1960s do, in fact, occur. The picture, says the Council, is not simple, and the evidence is not completely clear-cut, but the gist of it is that lowering trade barriers does, in general, yield greater specialization as well as higher productivity, larger plant sizes, longer production runs, and reduced product diversity.

Trade policy prescriptions

The threat to growth in living standards resulting from the productivity slowdown makes any income gains from trading more valuable than ever before. Even so, it is far from easy to arrive at a balanced view on the record and the options for Canadian international specialization and trade.

In the area of import policy, the issues concern the reduction or removal of trade barriers, the growing volume of trade, and the effects of these developments on living standards, on the industrial structure, and on the adjustment costs. According to the Council, the effects that imports are having on Canada's industrial structure are sufficiently balanced by the effects of increased exports that there is not cause for great concern. The question then, in considering policy towards imports, is how best to balance the need to maximize improvement in living standards against the need to minimize adjustment costs as trade barriers fall.

The simultaneous reduction of trade barriers through bilateral or multilateral action increases trade volume and generates increases in real incomes and productivity in Canada. At the same time, adjustment problems arise, because workers and businesses have to move out of industries or product lines when products are being displaced by imports and into expanding industries or product lines.

An important issue is how best to balance the modest income gains that result, for a large proportion of the population, from lower trade barriers and from a higher volume of trade, against the possibility of heavy transitional losses for a smaller proportion of people – a task that is far from easy. The new evidence helps here.

As noted earlier, the main part of the adjustment in industrial structure occurs through a decline in "birth rates" rather than through a rise in "death rates," making for a less painful adjustment process than has, perhaps, been traditionally perceived. For workers, job displacement also poses fewer problems than might have been expected, although about one-third of workers displaced will experience serious difficulties in finding alternative employment. Moreover, the new data show that the gains from trade, much discussed in a theoretical way in the 1960s and 1970s, do exist in practice. The other side of the coin is that unemployment is higher now than at any time since the Great Depression, so that adjustment problems for both workers and firms may be much harder than the new evidence, which relates to the mid-1970s, implies.

Balancing all these considerations is a judgment call, says the Council. On adjustment problems, it concludes that, though much is being done, more could be and should be done, and recommends measures to help both firms and workers, as follows:

- The wide variety of existing programs for assistance to industry should continue to be re-examined, with a view to further reconciling their objectives and simplifying eligibility conditions and provisions for assistance; this review should also focus on the degree to which there remains a need for further increasing assistance to business firms as the country moves towards freer trade – for such positive adjustment purposes as the expansion of distribution networks for exports and the financing of shifts to new product lines, new facilities, and new locations.
- In addition to the assistance available at present, special assistance, in the form of both direct income payments and help in obtaining new work, should be given to those of any age and in any industry or location who, having lost their job for reasons among which policy-induced competition from imports plays a significant role, can't find work within a reasonably short time.

On the tougher question of the speed of approach to freer trade, currently set by agreements under the General Agreement on Tariffs and Trade (GATT), the Council makes two recommendations. One is based on a view that its new evidence on adjustment costs and income gains, which suggests a faster approach to freer trade might be desirable, is just offset at the present time by the unprecedented severity of the unemployment problem, which makes any adjustment costs very high. It therefore recommends a simple continuation of the present pursuit of freer trade, resisting current pressures towards greater protection. For the future, when the recession is over, it believes its new evidence warrants a faster reduction of trade barriers. Therefore its two recommendations are:

- The federal government should remain committed, for the time being, to the present plans for reducing trade barriers under GATT, and that it should resist the temptation to create any new nontariff barriers.
- As soon as clear evidence exists that the current recession has ended, consideration should be given to accelerating the process of reduction of both Canadian and foreign tariffs and nontariff barriers.

Comments and Dissents
Two Council members have expressed dissent with some of the material and recommendations contained in The Bottom Line. *In addition, one Council member, supported by two others, has appended a comment.* *For details, see pages 133 to 137 of the full report.*

Provincial policies in an energy boom

How the energy boom and associated province-building policies might affect western and eastern economies, is the subject of a new paper by two Alberta economists.

K. H. Norrie and M. B. Percy completed the report as background research for the Economic Council's western project. It is the third in a series of papers by these authors dealing with the nature of western economic development since 1971 (see *Au Courant*, Vol. 2, No. 1, and Vol. 3, No. 3). In this paper, Norrie and Percy develop a two-region economic model, in order to find out how an energy-rich West, and an industrialized East without energy supplies are affected by a shift in regional terms of trade caused by an energy price increase.

Each region in this new model is composed of six sectors, five of which are common to both – renewable primary industries; resource processing or primary manufacturing; secondary manufacturing; non-traded services; and government. In addition, the western region produces petroleum, and the East, capital equipment.

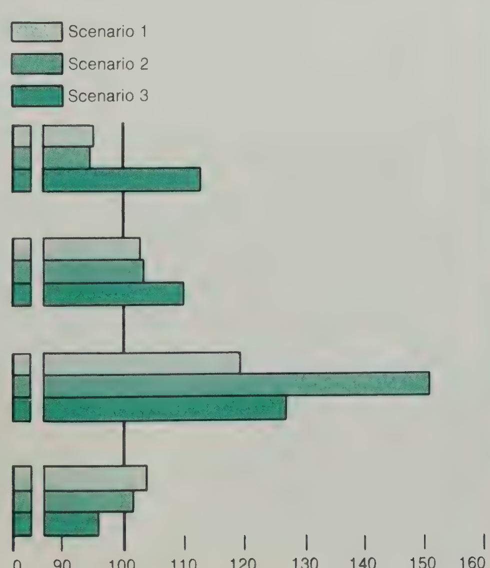
First of all, the authors set out a basic projection (base case) which assumes all land and capital is privately owned, and that both regional governments tax private sector income at a common rate. Then they test out the effect of a doubling of energy prices on the income and industrial structure of both regions in three scenarios.

First scenario

The first scenario assumes that the western regional government taxes surplus energy profits or "rents" derived from the price increase at the same rate (50 per cent) as it taxes other sectors in the economy. Tax revenues are then used both for general purposes, and to subsidize government services – a province-building tactic intended to attract people into the province.

Aftermath of the energy boom?

Index of western incomes and industrial structure following doubling of energy prices



Second scenario

The second scenario is similar to the first, except that the West now levies a higher tax (75 per cent) on energy rents – the actual policy followed by western governments after 1973.

Final scenario

In the final scenario, the western government takes 64 per cent of energy rents, and uses revenues not only for the purposes described in the first two scenarios, but also to lure prospective immigrants into the region by providing a lump sum payment to all westerners, irrespective of length of residency.

Results

The results of their exercise – some of which are shown in the accompanying chart – serve to confirm conclusions reached in earlier work, Norrie and Percy say. In all three scenarios, a "westward shift" in population inevitably takes place in response to the improvement in western terms of trade. But neither the gains for the West in terms of industrialization, nor the disadvantages for the East are clearly identifiable. In the first two scenarios, the western region becomes more specialized in energy and services; at the same time secondary manufacturing and the traditional primary exporting sectors decline in importance. While government policies can offset these trends, western residents will likely pay the price in terms of lower gains in real per capita income, the authors say.

Meanwhile, eastern per capita incomes decline as a result of the energy price increase, but the industrial structure remains largely unchanged. Wage declines in the East could eventually be felt out West as well, the authors caution, due to worker mobility and the smaller size of the western region.

Only in the third scenario does secondary manufacturing actually grow in the West, but the costs of this diversification are very high. Real per capita incomes now are actually lower than in the base case, suggesting that long-time residents are worse off in these circumstances than they were before oil prices increased.

"Economic Rents, Province-Building and Interregional Adjustment: A Two-Region General Equilibrium Analysis," by K. H. Norrie and M. B. Percy. Discussion Paper No. 230.

IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

Foretelling the job future

Where will jobs be plentiful a few years down the road? And in what areas will employers have real problems finding skilled workers?

Those are two critical questions addressed by a Council paper written prior to the recent recession, which deals with the tricky process of estimating and projecting occupational demand.

Unfortunately, say authors Tom Siedule and Norman Leckie, there has never been a surefire method of foretelling the future in this all-important area, primarily because Canada lacks a well-developed manpower information system. In the absence of dependable projections, decision makers have had to rely on current labour market conditions for their manpower planning, often with unhappy results. So the research they carried out for the Economic Council's 1982 report on labour markets was principally designed to "outline a way of filling this gap in our knowledge," Siedule and Leckie say.

Skimpy information

Information on occupational demand is skimpy, the authors explain, largely because of some major technical difficulties. The three main sources of data – the Job Vacancy Survey (now discontinued), the Occupational Employment Survey (also shelved), and the Census of Canada – all have shortcomings, rendering them unsuitable for serious econometric work. So, to date, economic models used to forecast future economic performance have not been capable of projecting demand by occupation.

To overcome this obstacle, Siedule and Leckie devised a new method of their own, which took into account the two key components of total labour demand: employment (workers actually hired), and job vacancies (jobs left empty through a shortage of skilled workers). Their approach entailed modifying an existing economic model capable of forecasting manpower requirements by occupation, and using it along with their own newly developed technique for estimating and projecting job vacancies. This procedure enabled them to predict where jobs would be needed, and where they would be hard to fill during the years 1981-85.

Job vacancies

The accompanying chart highlights some occupations where skilled workers were likely to be in short supply throughout that period. People trained in these areas "could be expected to command fairly advantageous positions as far as hiring and compensation are concerned," say the authors. Upcoming energy-related projects foreseen at the time probably accounted for the number of jobs calling for engineering and architectural-related occupations, as well as workers in metal-related occupations. The demand for construction trades personnel was expected to grow faster than the supply of carpenters, masons, pipefitters and glaziers, at least partly because of the launching of a number of construction projects in the West. In addition, employers could have trouble recruiting suitable numbers of workers in some of the service industries – most strikingly in the food and beverage preparation area, where chefs, bartenders, and waiters would be sorely needed.

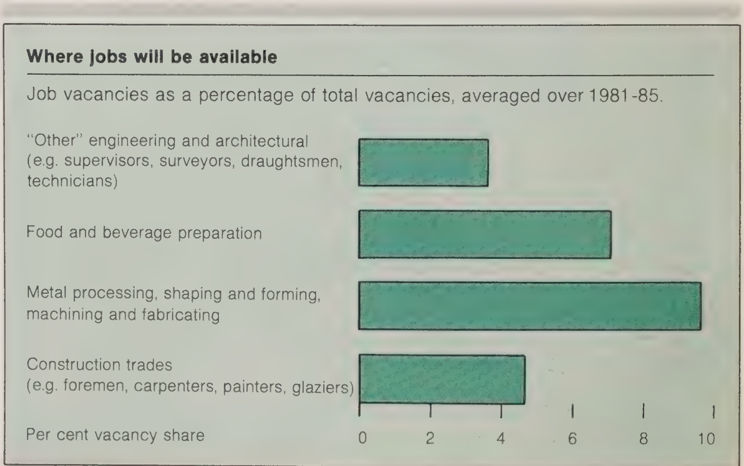
Occupational employment

The focus shifts somewhat when the authors looked at the second component of total labour demand – occupational employment. Many workers would likely be employed, they found, in the area of nursing and therapy, mining, service sales, engineering, mathematics, statistics and systems analysis (understandable given the remarkable expansion of the information computer industry), and in many clerical occupations.

Moreover, manufacturing jobs were not expected to grow dramatically in the medium-term future, Siedule and Leckie discovered. This finding aptly illustrates why a reliable method of projecting occupational demand is urgently needed. Given that manpower requirements in manufacturing should not be high, policy makers could be misled by current media emphasis on the pressing need for particular blue-collar skills, such as millwright and tool and die making. If policy makers prescribed manpower measures purely on a squeaky wheel basis, the authors note, then this relatively small labour market would be supplied with too many specially skilled workers in the years to come.

"Occupational Demand: Estimation and Projection," by Tom Siedule and Norman Leckie. Discussion Paper No.229.

The material on this, and the following two pages, is based on papers written in connection with the Council's 1982 report on labour markets, In Short Supply: Jobs and Skills in the 1980s *(see* Au Courant, *Vol. 3, No. 1).*



IN SHORT SUPPLY
JOBS AND SKILLS
IN THE 1980s

Small jobless group hardest hit

The story is the same in good times and bad – a small band of Canadians bears the main brunt of the unemployment problem.

In 1982, for instance, fewer than 10 per cent of the unemployed were without work for six months or more. But they accounted for more than 30 per cent of overall unemployment – the time spent looking for jobs. If you're part of this group you can count on a long search for another job – unless you quit the labour force altogether.

If you are an employed Canadian, you can expect to hold on to your job for a very long time, even though you may experience 10 job changes during your career. For example, more than one-third of Canadian workers aged 20 to 44 can expect to remain in their jobs for more than 20 years. If you are a younger Canadian worker, you are probably among the majority who slip in and out of jobs rapidly, experiencing six job changes before turning 30.

An Economic Council study of this flow of people in and out of the work force shows that there is a "high degree of permanence" to both employment and unemployment in Canada, say Council researchers Abrar Hasan and Patrice de Broucker, the study authors. They argue that an accurate picture of unemployment can be gained only by looking at the movement of people between jobs, unemployment, and dropping out of the labour force. Looking at unemployment alone, they note, will miss the many discouraged workers who just give up looking for jobs.

Their study was originally based on data from 1980 and earlier, but they later tested their conclusions with 1982 information. Data on regions as well as specific demographic groups are also examined.

Long-term unemployment

The authors find that individual spells of unemployment are often short – 55 per cent ended after less than a month in 1980. The number of people out of work for long periods is much smaller, yet proportionately these people have to shoulder a much larger share of the unemployment burden than other Canadians. The authors discover that those out of work for three months or more account for almost half the time that all the unemployed are out of work.

Being without work for a long time has another damaging side-effect. "As the period of unemployment lengthens, the chance of finding a job diminishes," the authors say.

Many simply give up: about 44 per cent of unemployment spells end with workers leaving the labour force; for women alone, the proportion rises to 52 per cent. Some of these dropouts are caused by discouragement at poor job prospects. The authors estimate discouraged workers could have added up to 2 per cent to the national unemployment rate in 1980.

If the long-term jobless problem were solved, the unemployment rate would drop several percentage points. The problem of long-term unemployment gets too little attention from policy makers, partly because the theory that the unemployed are able to find jobs quickly is still popular. Even in good times, the authors say, many of the long-term unemployed will still be out of work because the normal market system cannot generate enough jobs.

In looking at specific groups, Hasan and de Broucker found that women have a "relatively adverse" unemployment experience. A greater proportion of women than men risk being unemployed at any given time. Although their average length of unemployment tends to be shorter, they are more likely to become discouraged and leave the work force.

Teen-agers aged 15 to 19 enter and leave unemployment at much higher rates than young adults aged between 20 and 24. But young adults are unemployed for much longer periods than teen-agers.

Regional unemployment

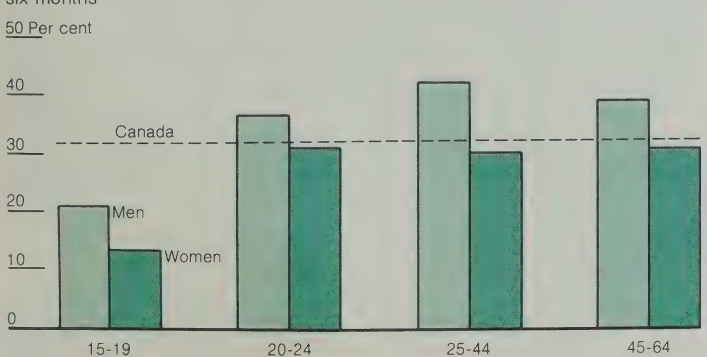
The authors say that if discouraged workers were added on a regional basis to the unemployment rolls, the unemployment rate would be 3.5 per cent higher in Quebec and the Atlantic provinces and less than 1 per cent higher in the Prairies.

More than 50 per cent of unemployment spells end with workers leaving the labour force in Atlantic Canada, a high for the country. In Quebec and the Atlantic provinces, worker discouragement is probably the main reason for leaving the work force, while other motives dominate in regions such as the Prairies, say Hasan and de Broucker.

Spells of unemployment lasting at least six months amounted to only 2 per cent in the Prairies in 1980 but rose as high as 7.2 per cent in Quebec. These levels climbed significantly last year because of the economic slump.

How long-term unemployment affects men and women

Proportion of unemployment caused by jobless spells lasting more than six months



Unemployment, Employment and Non-Participation in Canadian Labour Markets, by Abrar Hasan and Patrice de Broucker. Available later this year.

Blue-collar training needs a boost

What this country badly needs right now is a top-notch system of training in blue-collar industrial skills. But that's unlikely to happen as long as Canadians persist in looking down their noses at apprenticeship programs, says a recent Economic Council paper.

Apprenticeship training – whereby people learn such trades as carpentry, plumbing, construction, and mechanics – should be a very important element in Canada's manpower training system, argues York University professor Klaus Weiermair, in analysis carried out for the Economic Council's 1982 report on labour markets. Yet it is ill-developed, and in many cases ineffective, for a variety of reasons.

Poor view of apprenticeship

First of all, it suffers from the well-entrenched Canadian view that blue-collar occupations lack social status. Historically, Weiermair says, apprenticeship training in this country, as distinct from that in Europe or Japan, has been looked on as a welfare policy for society's marginal or outcast elements. Academic, rather than vocational, education early on became the traditional route to success and earning power, so that apprenticeship in the trades was not regarded as a rational career choice by young people, and manpower training itself developed into a system which provided only low to medium level skills. The availability of highly skilled immigrant workers and journeymen at relatively low wages during the 1940s and 1950s, further reduced any incentive to establish effective programs.

Some standardization

Second, apprenticeship training in Canada has suffered to some extent from the fact that it is provincially controlled, allowing for wide variations in terms of entry requirements, program content, and qualifying examinations. Moreover, the existence of 12 different systems has impeded the development of a uniform standard for certification purposes. Many occupations, for example, are apprenticeable trades in some provinces and not in others.

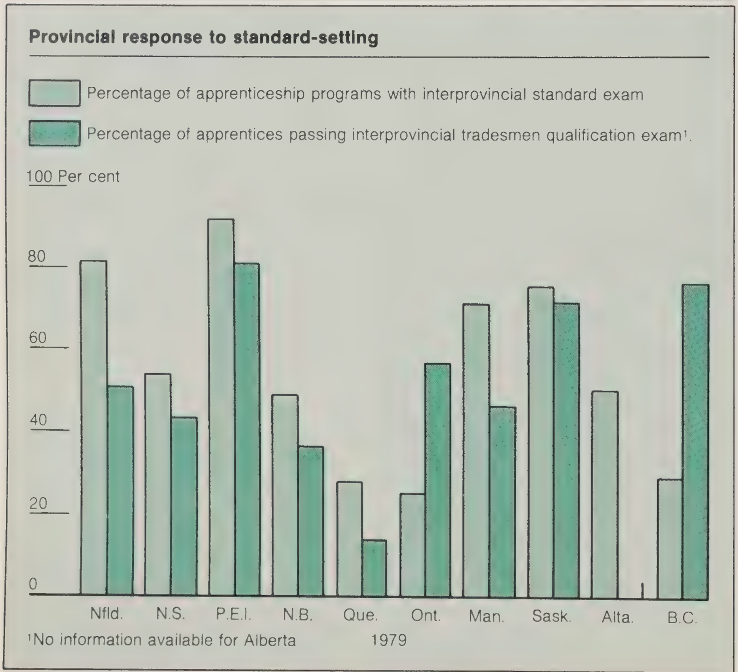
The federal government, through the training branch of the Department of Employment and Immigration, has been able to introduce some measure of standardization by the establishment of its national Red Seal program, entitling apprentices to work outside their province after passing an interprovincial exam. But the effectiveness of this program fluctuates a good deal across trades, and also across provinces, as the accompanying chart indicates.

Further, some provinces have been more successful than others in providing quantity and quality of training programs, he finds. In terms of quantity (measured by growth and size of programs, and by the relative size of apprenticeship training with respect to the provincial labour force), Alberta clearly leads all the other provinces, followed by British Columbia and New Brunswick. In Quebec, which brings up the rear, "apprenticeship training can safely be regarded as an unimportant source of skilled manpower development," Weiermair comments. However, authorities in that province are coming to recognize the nature of the problem, he adds.

Interprovincial variations in quality are harder to assess, he says, but judged purely in terms of failure rates and average marks achieved in the Red Seal exam, the western provinces fare very well, and Quebec, once more, appears at the bottom. A more balanced approach to education in the West, coupled with less reliance on immigration, probably explains superior provincial performance there, the author says.

Employer reluctance

A third impediment to apprenticeship training can sometimes stem from employer reluctance to undertake lengthy and costly on-the-job training, particularly when business is bad. Employers are more likely to take on this commitment, according to Weiermair's analysis, when they lack cheap sources of substitute skills (from community colleges or private trade schools, for example); when the training is specifically geared to the firm's needs, rather than general in nature; and when they are well-informed about the costs and benefits.



Recommendations

Weiermair makes a number of policy recommendations designed to improve the system of apprenticeship training, including:

- the creation of a national independent research institute to assemble much-needed basic information in the occupational area,
- institution of measures to standardize apprenticeship training across Canada;
- introduction of a policy package aimed at making apprenticeship training a convincing career and educational alternative, through its effective integration into existing provincial systems of education.

"Apprenticeship Training in Canada: A Theoretical and Empirical Analysis," by Klaus Weiermair. Available later this year.

Corporate tax cut pays off most

Among the range of fiscal tools available to governments to stimulate the economy, a corporate tax cut or higher investment tax credits would pay off better than other tax measures in boosting economic activity, increasing jobs, and slowing down price increases, says a study prepared for the Economic Council of Canada.

In his study based on the experience of the pre-recession 1970s, Ottawa economist Carlton Braithwaite ran simulations on the Economic Council's CANDIDE model to test what would happen to the economy if a number of tax changes were brought in.

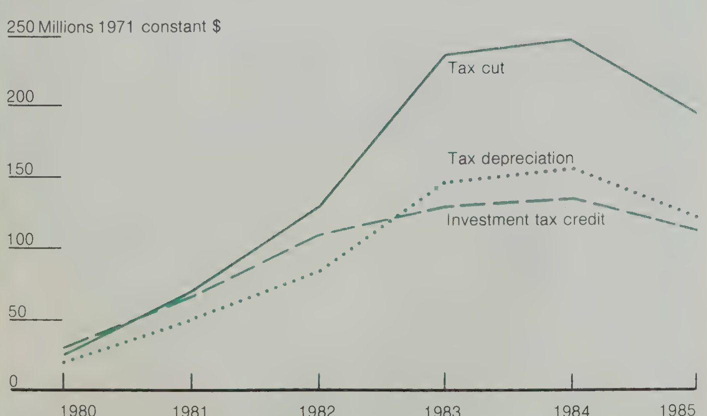
He chose to look at the impact of a corporate tax cut, an increased investment tax credit, higher tax depreciation, a personal income tax reduction, and a manufacturers' sales tax cut. He assumed each measure would cost the federal treasury $1 billion in lost revenue in the first year.

Measuring the direct effects of each method, Braithwaite found that the manufacturers' sales tax reduction topped all the others in stimulating economic growth and employment and controlling inflation.

But when costs as well as benefits were included, the corporate tax cut headed the list, followed by the investment tax credit increase.

How different tax measures could affect investment

Direct effect of a corporate tax cut, increased investment tax credit, and increased tax depreciation on nonresidential construction investment.



Comparing the three investment incentives first, Braithwaite reduced the corporate tax rate by about 13 per cent and increased the investment tax credit by 80 per cent and the tax depreciation rate by 27 per cent.

Corporate tax cut works best

Looking at their direct influence on investment only, the author finds that the corporate tax measure works best on the non-residential construction industry while the investment tax credit is the most effective in the machinery and equipment sector. Overall, the tax depreciation method lags behind the others.

In percentage terms, investment increases range from less than 1 per cent to more than 2 per cent a year better than projected results under the unchanged policy scenario.

Studying the effect of these investment incentives on other aspects of the economy, Braithwaite concludes that all three contribute to growth in consumption, employment, labour productivity, and corporate profits and a slight decrease in the unemployment rate. Generally, the consumer price index is a shade smaller than it would otherwise be.

Of course, the revenue loss means an increase in the federal deficit and in federal government interest payments. The deficit increase ranges between $600 million and $1.6 billion a year. But all these improvements are based on assumptions of an accommodating policy by the Bank of Canada. The results are not nearly as good under a tight monetary policy.

Braithwaite also looks at a personal income tax reduction, which would yield a $1 billion loss in government revenue in the first year. He concludes that prices increase faster under this approach than under other methods and there is little change in the unemployment rate.

So the author recommends using investment incentives to stimulate the economy, supplemented by other policies such as a more accommodating monetary policy. The incentives, he says, would be best applied selectively to industries where they will be most effective in increasing productivity.

The Impact of Investment Incentives on Canada's Economic Growth, by C. Braithwaite. (EC22-112/1983; $8.95 in Canada, $10.75 elsewhere).

Pension reform

Its economic analysis of Canada's retirement income system, published over three years ago, has stood the test of time very well indeed, the Economic Council reported to the Parliamentary Task Force on Pension Reform in April.

The Task Force had asked the Council to make a submission on pension reform, drawing on the expertise it developed in the researching of a major report, *One in Three: Pensions for Canadians to 2030 (Au Courant*, Vol. 1, No.1), published in the spring of 1980.

The analysis and suggestions that report contained are by and large still valid today, the Council stated in its submission, "Pension Reform in Canada." Indeed, "for the most part, intervening events have served only to strengthen many of its conclusions," it affirmed.

The Council report was first and foremost an economic analysis focusing on the long-term implications for the economy of Canada's system of income security for older people.

The report found that the cost of providing Canada's senior citizens with adequate income support could be strongly affected by demographic trends, inflation, and productivity growth – factors beyond the scope of retirement income policies themselves. On the other hand, its work also suggested that a wide range of policy alternatives could be employed with no significant cost in terms of economic growth.

Any reform in the pension system, said the Council, should be structured around four key requirements: *clear primary objectives*, concerning the provision of basic income and income replacement for older people; *flexibility* in adapting to demographic trends and in incorporating the best features of public and private systems; *fairness*, as for example, in sharing the "pension burden" between present and future workers; and *timeliness* in implementing necessary measures.

With those objectives in mind, the Council made a number of specific recommendations, including:

- ensuring a basic income for all older people, by according top priority to improvement in Old Age Security (OAS) and Guaranteed Income Security (GIS) programs. Price indexation of these programs should continue, said the Council, and a parliamentary committee should be created to keep in touch with the economic problems of older people through public hearings, and to make recommendations for discretionary increases in the GIS as necessary;
- initiating measures to ensure a fair distribution of the pension burden. This would require future pensioners to bear an increasing share of costs now both through increased contributions to the present Canada and Quebec Pension Plans (CPP/QPP) and through expansion of private pension plans.

Nobel laureate addresses Council

Economic theory and policy have taken on considerable importance in our present crisis-prone times, Nobel Laureate Lawrence R. Klein told a large audience at a recent seminar hosted by the Economic Council. For that reason, economists should be taking a careful look at three schools of economic theory: monetarism, rational expectations, and supply-side economics, which share a common faith in the magic of the market and the need for a low-profile government.

Presently Benjamin Franklin professor at the University of Pennsylvania, Dr. Klein has had a distinguished career as professor, researcher, consultant and author. In addition, he has served on a variety of boards, including those of the Institute for Advanced Studies in Vienna, and the Commission on Prices for the Federal Reserve Board. He is a senior advisor on the Brookings Panel of Economic Activity, and acted as co-ordinator of President Carter's Economic Task Force in 1976.

In developing both macroeconomic theory and the econometric models used to measure the impact of various economic policies on future economic performance, economists recently have had to deal with a number of new ideas. One of these, monetarism, can be defined in its most extreme form as the notion that "money alone matters" – that the best way of controlling inflation lies in controlling the money supply. But his own scrutiny of this theory, as well as that of other economists, particularly in the light of current events, has cast doubt on this approach, Klein remarked. His own assessment, he added, would be that money indeed matters, but by no means exclusively.

Rational expectations

Another prevailing theory influencing economic thought and model design, he said, is that of "rational expectations" – the idea that economic models should take account of prevailing public attitudes on what the economic future has in store. The major problem in trying to build these expectations into economic models, Klein explained, lies in the assumption that the general public has the same information at its disposal as do econometricians. In reality, the typical citizen does not interpret the economy as the experts do, Klein observed. Surveys and sample investigations remain the best test of the public's expectations, in his opinion.

"Supply-siders"

A third theory is that put forward by "supply-siders" in the United States, who argue that personal tax cuts increase motivation to work, to save and to invest, and, hence, stimulate productivity. But putting this theory into practice has had the reverse effect in the U. S., Klein noted, culminating in a severe and prolonged recession. In his view, "supply-sider" policies do make a slight, but long and drawn-out contribution to economic well-being, insufficient to justify their use as a cornerstone of national economic policy.

Each theory, Klein concluded, has had some influence on the development of macroeconomic policy and econometric modeling, but generally in terms of evolutionary modifications, rather than in the forms envisaged by "true believers."

S·P·E·A·K·I·N·G · O·U·T

Regulations made by governments or by professional associations are sometimes costly to consumers, wasting resources and reducing competition.
Some progress has been made in dealing with this problem since Economic Council reports were published in 1979 and 1981, says the Council's senior policy advisor, Robert Jenness, but a lot remains to be done.

Taking a fresh look at the question in a recent interview with *Au Courant*, Jenness said the most urgent needs for change are in the fishing and transport industries. But there are still significant problems in other areas including the legal and medical professions, which regulate themselves.

Au Courant: Among the issues you examined two years ago, which requires the most urgent action today?

Jenness: I would say that two areas probably are at the top of the list for urgent action. Fishing obviously has been the concern of the federal government for some time because of the severe plight of the industry, and despite the optimism that was generated earlier with the opening up of the Two Hundred Mile ocean limit. The faster changes can be introduced in that area, the better.

Au Courant: Let me interrupt here to ask whether the recent Kirby Report on the fishery adopts the same approach the Council took to regulating the fishing industry?

Jenness: Yes, the Council report, which preceded the Kirby Report, had explicit concerns about the economic problems of harvesting fish resulting from their being what is known as a common property resource – that is, a resource that is freely accessible rather than owned by any single individual or organization – and so subject to excessive use and undue depletion. The Kirby Task Force agreed with the Council that the problem could only be resolved if fishermen were given property rights to a share of the fishing resource. The Council recommended individual quotas in the separate fisheries and the Kirby Task Force, along with, I might add, the Pearce Commission studying the Pacific fisheries, endorsed the idea of individual quotas associated with either boat quotas or specified amounts individual fishermen could take.

Au Courant: To return to my original question, what is the second area where urgent action is needed?

Jenness: I feel transportation is pretty close to the top of the list. And I think changes here are more possible now that we are coming out of the worst excesses of the current slump. It was the Council's view at the time of its report that the removal of many of the entry and other controls over what is carried, where, and by whom, would in the medium and longer term directly improve economic performance. Indeed, it is precisely because transportation directly enters into the costs of production and our ability to compete internationally that it is important that regulatory reforms be initiated, if only to keep us reasonably cost competitive with the United States, where deregulation has been considerable.

Au Courant: Are there cases of self-regulation which create economic problems and harm the consumer?

Jenness: Yes, there are some rather complex problems associated with professional bodies and licensed occupations. Initially what you have with most professions is a situation where governments, primarily provincial, have delegated regulatory powers to professional self-regulatory organizations. And these in turn, exercise control and constraints on the activities of individual members of the profession. Now many of these controls are for the general benefit of consumers in that they are designed to protect against malpractice or fraud. But there is another side of the activities of the organizations, which is less satisfactory from the consumer point of view. These organizations can not only prescribe prices and practices,but frequently can also limit entry through competitive examinations or licensure or certification. And they can shape or restrict information such as, for instance, the posting of prices, the advertising of services, and so on.

Au Courant: Can you give me some examples?

Jenness: There is no assurance, for instance, that consumer interests are adequately represented in the internal determinations of the provincial medical, dental, or legal associations. And this has manifested itself, for instance, in bar associations taking action against individual lawyers who advertise, and in the medical associations defining the tasks of physicians and limiting the role of auxiliary occupations such as paramedics, medical technicians, or midwives. The result is less use of lower-priced but perfectly capable professionals to perform many of the tasks now carried out by more highly trained and more expensive professionals. All this has the effect of raising prices to the consumer.

Au Courant: What sort of regulatory controls over professions was the Council proposing?

Jenness: Remember that occupational licensing effectively segments the labour market into groups with exclusive rights to practice. What the Council sought was to open up competition within and between occupations, so that, for instance, certain practices could be done by less costly methods, and the public would have more comparative choice over individual fees and services.

Au Courant: Do you see any progress at all along those lines?

Jenness: No, I do not see much progress. In fact, a recent decision by the Supreme Court of Canada confirming the right of the B. C. Bar Association to discipline one of its members for advertising suggests that the course is running in the opposite direction.

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Economic Council of Canada

Volume 4, No. 2, 1983

On the Mend

1987

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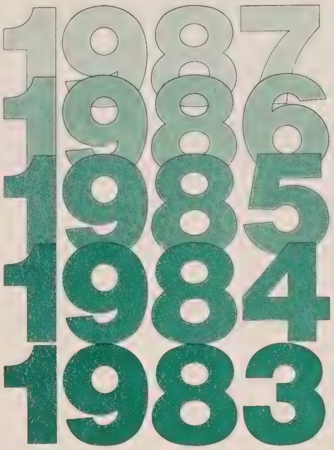
PUBLICATIONS



Twentieth Annual Review

On the Mend *(EC21-1/1983E; $5.95 in Canada, $7.15 elsewhere).*

Each year the Economic Council publishes a review of the economy and makes policy recommendations. The 1983 Review is now available in bookstores across the country, and may also be ordered from the Canadian Government Publishing Centre (address below).

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au courant

Volume 4, No. 2 1983

Twentieth Annual Review

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1987 1986 1985 1984 1983

Looking back

This is nothing like the Canadian economy that the Economic Council began studying 20 years ago. It has grown not only in size but in complexity, in the way it moves, and in the way it reacts to attempts to make it move. More importantly, there has emerged a powerful resource for growth and productivity in the form of a workforce that is on average younger, better educated, more prosperous, more secure, more traveled, more familiar with change.

The strength is there, but the danger now as the Council sees it, from the long view that Parliament first assigned to this body in 1963, is that the remarkable gains of the past two decades will somehow be overshadowed by settle-for-less attitudes carried over from the last few years of high inflation, low growth, and distressingly high unemployment.

Concern about the economic mediocrity that such attitudes could produce has led the Council in its Twentieth Annual Review, *On the Mend*, to assess past and prospective economic performance (abstracted on these two pages); to advance a new set of targets for the economy (pages 4 and 5); to review fiscal, monetary and trade policies (pages 6 and 7); and to re-examine the health and welfare system and the issues raised by the new prominence of women in the workforce (pages 8-10).

It is in this forward-looking context that the Council first takes stock of what Canada has achieved over the past 20 years in terms of social and economic development. Some highlights of that analysis:

• *Health and Welfare.* All levels of government acting together have built over this period a remarkable "safety net" – strong by international standards – comprising not only social assistance but also universal unemployment insurance, comprehensive health insurance, and a composite pension package.

• *Education.* For a long time Canada was two years behind the United States in average years of schooling. That gap now has been effectively closed. Though the main surge was in the 1960s when postsecondary enrolments almost doubled, the gains continue in a field crucial to productivity growth.

• *The Burden.* Though the costs of this system are high, the Council strongly believes it should be maintained and even strengthened as resources permit. It has less to do with current government deficits than does the recession, the Council notes. The federal debt-to-income ratio is now lower than it was in the early 1960s. There are now more people working relative to the young and elderly, meaning that the safety nets can be made more effective without undue prejudice to the real incomes of those who have jobs.

• *Incomes.* While real household income growth stalled during the recession, major gains were posted over the past two decades, including a 47 per cent increase in the 1965-75 period. One factor was the large influx of women to the workforce. They were such a large factor in income growth that, if the women in two-parent families had not worked outside the home in 1979, there now would be one in eight of those families below the poverty line instead of one in 14.

A major task ahead is to reduce unemployment and at the same time reconcile the displacement of some workers with the job opportunities presented by technological change, the Council observes.

Among other things, this will require a healthy business sector – a climate favourable to the birth of new business. "However important it is to address social issues," the Review states, "government policies must be very carefully considered so as not to add unreasonable burdens to the corporate sector,... as that in turn could heighten the risk of aborting the recovery."

A strong competitive posture is also essential in a world market that is both specializing and diversifying, with enormous prospects for trade, travel, and capital flows. The Council adds:

"To remain competitive, Canadians must continually adapt to change, be prepared to abandon enterprises and industries that are no longer commercially viable, and encourage the movement of labour and investment capital to more favourable and profitable activities.

"This is best facilitated in an economy that is growing and open, and in which the individual costs of adjustment are cushioned by programs that bridge the transition without impeding or aborting it.

"There will always be tension between individuals and groups that seek protection and those which engage in vigorous competitive activity, not only with respect to international trade and investment but also within the domestic economy.

"A major task ahead for governments will be to resist the demands of interest groups who seek to eliminate competition through regulated markets or who pressure governments in ways that unduly add to costs and contribute to inflation."

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Looking ahead

It will take until next year for the current economic recovery to restore Canadian production to the level attained in 1981. Thereafter, without new initiative and effort the recovery could weaken and falter – having made no real dent in double-digit unemployment – and while the economy is unlikely to slip back into recession, the annual rate of real growth might fall back to less than 2 per cent.

The course thus projected by the Economic Council in *On the Mend*, its Twentieth Annual Review, reflects lacklustre investment among other factors, and is highly dependent on a wide range of assumptions, including no change from existing policies.

Critical for Canada, for example, will be the course of interest rates and the timing, strength and durability of the recovery in the United States. The outlook for Canada can also be influenced by changes in domestic monetary policy, the savings rate, the timing of new investments, and continued wage restraint or the appearance of a wage bubble.

If the U.S. recovery proves to be more durable than now expected by many, the projected 1986 "growth pause" could be eliminated – creating additional jobs and output in Canada and helping to reduce the federal deficit.

But if monetary policy – already tight in real terms in both countries – becomes even tighter in the United States and if Canada follows suit, then investment would be further cramped and the whole recovery would be aborted, perhaps even sooner than 1986.

What scope remains for independent Canadian action? A more accommodating monetary policy in Canada could boost investment, and reduce debt-servicing costs (thus lowering the federal deficit), but it could also raise prices again. Unilateral action to lower Canadian interest rates would depress the exchange value of the dollar. As for fiscal policy, in the light of the projected federal deficit, the Council believes there is already enough fiscal stimulus to the economy (though there appears to be room for some specific job-creation programs; see page 6). Further *general* fiscal stimulus would be unlikely to produce any major reduction in unemployment, the Council believes.

"Finessing strong and balanced medium-run growth from a recovery that lacks a proper restoration of investor confidence would be difficult. Monetary or fiscal policy cannot play the role of a cure-all, but it can make a modest contribution. What is necessary is a much wider range of policy initiatives that treat chronic problems directly."

Now coming out of the worst recession since 1930, there still is a great deal of slack in the economy, the Council notes. It is operating at perhaps 9 to 12 per cent below potential. Although growth will average about 2.9 per cent this year, this is from a very low base created in two years of depressed activity.

The Council's base case projections in more detail:

Real growth will average about 3.7 per cent in 1983-85. The growth rate will then drop by about one percentage point, to around 2.8 per cent a year, in the 1985-87 period.

In the absence of new initiatives that create jobs, the unemployment rate will decline somewhat in the first period, but not in the second; by then the labour force will be growing again as fast as employment. Now about 12 per cent, the unemployment rate will hold at over 11 per cent through to 1987.

Inflation in 1983-85 will average about 5.2 per cent. But thereafter it will rise slowly over the 1985-87 period, averaging 6 per cent a year under the pressure of foreign prices, particularly those associated with the decontrol of natural gas prices in the United States.

During the early stages of the recovery, productivity (measured as output per person-hour worked) is estimated to rise by 3.1 per cent this year and 2.4 per cent in 1984. While such gains are above the long-term trend, they reflect in part the fact that the recovery is being led by strong gains in sectors of the economy that are traditionally highly productive – consumer durables and construction.

Because the signs of productivity improvement are not as strong in some other parts of the economy, it is expected that over-all productivity increase could slip to between 1 and 2 per cent annually in 1985-87. While that would be an improvement on the 1970s, such performance would be well short of the gains made in the 1960s.

Investment, it is clear, will not be a strong element in the initial recovery. Next year as a percentage of Gross National Expenditure it is projected to be about 20.8 per cent, not much different than this year. The rate of growth of real investment is not expected to exceed the growth of real GNE until 1985-87.

While provincial governments will move to a surplus position by mid-decade, the federal government will remain in deficit. As a proportion of GNE, the federal deficit can be expected to decline gradually from its current high of about 6.8 per cent to about 4 per cent by the end of the period, in 1987.

The savings rate – personal saving as a percentage of personal disposable income – is expected to decline from the very high levels experienced during the recession, but stay generally higher than it was in the 1970s. It is around 12.6 per cent this year. The Council projects a continual decline to about 11 per cent in 1987.

Not much change is expected in real interest rates, though the Council cautions that in present circumstances, notably in the United States, this is a projection area of particular uncertainty.

Unemployment, now running at about 12 per cent, remains the country's leading problem, the Council says.

While most new jobs will be found in the private sector, governments will continue to have a major role in providing training and retraining and in setting policies that encourage business expansion and new investment (see following pages).

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New medium-term goals

The Economic Council believes that the economic performance it has carefully projected to 1987 is simply not good enough for the Canadian economy.

It has therefore returned in its Twentieth Annual Review, *On the Mend*, to the notion of national economic goals (see insert) – a package of realistic, mutually consistent benchmarks for the future against which governments and the public may measure economic performance – which the Council as a broadly representative body originally developed in its First Annual Review.

The goals struck by the Council 20 years ago were bold indeed: real growth of 5.5 per cent a year, productivity rising at an annual rate of 2.4 per cent, the unemployment rate to average 3 per cent, prices rising no more than 2 per cent a year, all with close attention to equitable income distribution and a stable balance of payments.

At the time, those goals were clearly within the range of possibility. But not now. The economy has greatly changed, the demographic pattern is different, and with relatively many more people working in the services sector the potential for real growth has declined.

The new goals reflect this new reality, but are no less challenging.

"Getting from here to there will not be easy," the Council concedes, "especially since we must start from a base that is operating at 9 to 12 per cent below the economy's potential. The terms of trade for most of Canada's resource-based exports have been depressed, and the overhang of idle capacity and idle men and women is heavy."

"But with the spectre of acute inflation receding and with the recovery under way, what more opportune time to commit this nation to the higher ground."

Taken together, the Council's first two medium-term targets – rates of 1.5 to 2 per cent for productivity growth and 6 to 8 per cent for unemployment – imply that overall real economic growth for the next half-dozen years or so would have to be between 3.5 and 5 per cent annually.

That target is *not* overly ambitious, the Council believes. It is above the normal potential growth rate, to be sure, but as has happened many times in the past, growth rates during the first stages of a recovery from a deep recession often exceed the long-term potential growth rate.

"Considering the unsatisfied collective and individual wants at this time, there is no lack of useful things to do.

"Canada's public and private capital plant has not kept up with the needs. Canadians have been constrained in meeting their development and defence commitments.

"Households have experienced small increases in real incomes... Purchases have been put off... The gap between the desired and actual stock of housing has increased. Improvements in pension and welfare systems have been put off and cutbacks in public services have occurred."

But is such an *overall growth* rate attainable?

The Council feels that the overall growth rate set as a performance target poses no fundamental problem. It adds:

"There is no immediate scarcity of workers or of most kinds of skills, although there could be severe skill shortages later in the decade if programs of skill development are not modified.

"For most activities, plant utilization rates are well below potential. There could be some resource or engineering bottlenecks, but world supplies could resolve many of these."

And if world trade and output remain slow? What then?

"That may be more difficult," the Council admits, "but Canadian trade is well diversified and its share of world trade in most things is such that it could grow without inviting envy or retaliation."

The proposed targets are not projections such as those described in the previous article. Rather, they are normative benchmarks for the future against which governments and public opinion can measure economic performance.

They also form a package, "and the success of each depends in varying degrees on the success of the others. They presuppose a working consensus by which Canadians, through their institutions, outlook, and policies, can pull together collectively to promote these goals.

"Renewed prosperity and renewed employment growth depend on the basic *complementarity* of labour and management effort, on the one hand, and consumer and investor spending, on the other."

The targets in brief

The Council believes these targets are attainable as a performance package in the next three to five years:

1 Restore for Canada as a whole a trend rate of increase in productivity, as measured by real output per employed person, of between 1.5 and 2 per cent a year.

2 Achieve a trend rate of employment growth of between 2 and 3 per cent per annum, so as to reduce unemployment within, or by the end of, the medium term to between 6 to 8 per cent of the labour force.

3 Keep the trend rate of annual inflation down to 5 per cent or less, recognizing of course that there will be variations in inflation rates due to international and domestic factors.

4 Encourage a high rate of domestic saving sufficient to contain Canada's average dependency on net capital inflows to about 2 per cent of GNP or less.

5 Maintain the objectives and the substance of the existing social programs insofar as they provide benefits to Canadians, but improve the efficiency of their delivery systems and, *where possible*, fill the most urgent gaps in their application.

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The targets reconciled

"We believe that Canadians can look forward to years of renewed growth and prosperity; they can, if governments are prudent and if business and labour are moderate in their expectations, reach out to achieve conditions that correspond, or are close, to the targets we have outlined."

But in stating this view the Economic Council emphasizes that the goals are a package to be pursued simultaneously, and the purpose of the package is to avoid concentrating on one goal or another – there being some current inclination to do just that – and to recognize that within the package some goals will be overshot in some years, undershot in others, depending on developments both at home and abroad.

There is no doubt, however, that the driving impetus for growth must come mainly from the private sector – first from consumption, and then investment buttressed by expanding trade. It also means that the country's competitive productivity must rise faster than the business up-cycle would normally see.

For government action, the scope is limited, and care will be needed with fiscal and monetary policy.

"One thing, however, seems evident," the Council says. "Over the next few years, attempts at continuous 'fine tuning' of the economy are more likely to increase uncertainty and deter private sector initiative than policies that aim at pursuing a steady course."

With unemployment at 12 per cent now well beyond the bounds of social endurance, does a target of 6 to 8 per cent suggest still too many people without work, too much human hardship?

Yes, the Council agrees, and ultimately it could be reduced – but if the economy were to run hard enough to reduce the jobless rate much further, right now, there would likely be another price-wage spiral of the kind Canada has struggled so hard to contain.

Does the productivity target – suggesting the output of more goods and services with fewer workers – contradict the employment goal?

There's a contradiction in the short run, the Council agrees, and in isolated cases where there are no markets for the additional output. In the latter, work-sharing could have its place – but as a temporary expedient, not a solution.

"Economic growth as a means to increased personal income rests fundamentally on the achievement of increased personal output. Thus, in the medium and longer run, increased productivity is essential to generate the additional income and wealth from which additional demands for new goods, services, and employment will emerge."

As for the inflation target – a trend of 5 per cent – the Council's main concern is what happens after 1984, when commodity and energy prices are likely to move up. Then the central problem would be to prevent much of the additional aggregate demand being absorbed by cost and price increases, leaving the actual increases in output insufficient to provide new jobs to meet the employment target.

The Council therefore supports federal and provincial initiatives ranging from price and wage monitoring, to publicity for "excessive situations," to "jaw-boning," and to selected direct actions to encourage restraint by both labour and management.

Further, the Council believes that the most effective way to contain arbitrary price increases is to expose markets to increased foreign and domestic competition.

One of the main reasons for the recession – and one reason why the recovery is not more robust – is that consumers have been holding back on expenditures. Why? One obvious reason for that is the recent decline in real disposable income. But savings have been exceptionally high, reflecting high interest rates and – with unemployment so high – the unwillingness of many people to take on obligations that might compromise their future standard of living.

Thus, the target for domestic savings – high enough to reduce our dependency on net capital inflows to 2 per cent of GNP or less – may, at first blush, seem inconsistent with the growth objective.

In the short run, a cut in savings rates – and thus more consumer spending – would help the economy.

"But looking further ahead and taking into account Canada's investment needs, it would seem highly desirable for this country to continue to have high average personal and corporate savings rates and to ensure that savings are allocated as efficiently as possible."

The fifth goal, relating to social programs, is reviewed more fully on pages 8-10.

Moving to higher ground

"In confronting the years ahead, Canadians could be guided by ideas and attitudes that were moulded during a period marked by high inflationary expectations, mediocre economic performance, and the highest levels of unemployment seen since the 1930s. There is the danger that too many will continue to assume that only sluggish growth is possible, that only tight money and high real interest rates can prevent the return of inflation, that our social security, health, and educational programs must be reduced and offered only to select groups, that Canada needs further protection from the international economy, and that the institutional and federal-provincial rigidities built into the economy have become a fact of life. Many have forgotten the dimensions of Canada's true economic and social potential and are willing to settle for second- or third-rate solutions. The Council rejects this position and believes that, with good common sense governments, labour and management can work towards the 'higher ground.'"

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Policy action needed

The Economic Council advocates government spending restraint, modest monetary expansion, voluntary wage and price restraint, and measures to reduce regulation, improve competition, and direct more savings into small- and medium-sized businesses that can create jobs.

These are among the major policy recommendations made by the Council in pursuit of its medium-term targets, and they reflect in part the Council's continuing opposition to "rigidities and inflexibilities" that are preventing Canada from reaching a working consensus on some critical issues.

For example, the Council believes, unless the country can reach a firm consensus on a "predominantly voluntary" incomes policy, too much will be asked of fiscal and monetary policy in terms of reducing inflation and unemployment, and then there may be pressures for "stronger, more intrusive, and less flexible measures."

Still other rigidities are identified by the Council:

"Production, pricing, and marketing decisions in many sectors have become increasingly insensitive to both domestic and international market forces. Competition policies and regulatory reform have not kept step with changing market conditions. Geographic barriers have been installed, and the mobility of the work force appears to have been reduced.

"Canada, along with other countries, is participating in the trends towards protectionism through nontariff barriers and special contractual and preferential arrangements between countries.

"Moreover, from a political perspective, there is clear evidence of institutional inflexibility. In federal-provincial affairs, for example, the inability to reach a consensus is an important element of the problems that are threatening the future well-being of Canada's education and health systems."

A high priority for regulatory reform is recommended, along with a search for methods to make administered prices more market-sensitive, and new ways to increase the flexibility of pricing and resource allocation in agriculture.

The government should also promote competitive conditions in industry and take every opportunity to reduce protectionist practices, the Council believes. A new federal competition act is also urged – one with teeth – to remove barriers of entry to activities and provide adequate safeguards in the event of mergers.

Equity investment in small- and medium-sized businesses is being discouraged by regulations on how trust and insurance companies and pension funds may invest, the Council notes. While the rules are intended to protect depositors, "there is room for some modest change."

To expand the volume of savings available, the Council recommends that the amounts that taxpayers can deduct for pension contributions should be raised "as fiscal conditions permit." Unchanged since 1976, the "caps" of $3,500 for registered pension plan contributions and $5,500 for RRSPs have been seriously eroded by inflation.

Given the past rates of inflation, the real value of this saving incentive has declined by close to 50 per cent. Restoring its original real value would mean increasing the maximum deductions to over $6,500 and $10,000, respectively. This exemption, however, would be concentrated among a fairly small group of taxpayers. "More promising, perhaps," the Council says, "as a source of savings may be the broadening of private pension coverage, which will be considered, among other pension reform issues, by a federal Parliamentary committee."

Urging that fiscal policy be held "relatively tight and prudent," the Council at the same time says the government should be prepared "where practical" to move to an increase in money supply and lower real interest rates.

"Such a policy of fiscal restraint and modest monetary expansion would be a signal to the private sector of the government's commitment to the achievement of investment and growth primarily through private initiative."

Incomes policy

"We believe that, in addition to government spending restraint, there must be moderation and restraint in private sector pricing and in the wage negotiations undertaken by labour and management, all carefully and selectively monitored so as to discourage developments that could trigger an inflationary spiral."

After consulting labour and management representatives, the Council says, the federal and provincial governments should set up a system of monitoring price and wage developments "in keeping with the policy of restraint, with reasonable discretion to take such actions as is deemed necessary to keep inflation at or below the 5 per cent target."

While the proposal may be regarded as faint-hearted by some and as intrusive by others, the Council views it as a lighter and more flexible approach, to be preferred to "the rather heavy-handed type of incomes policy that some have suggested" and which was enforced under the former Anti-Inflation Board.

"Our proposal would leave wages and prices free to respond to underlying changes in demand and supply and to international conditions, but it would also, at the same time, effectively curb excessive behaviour that could encourage a return to double-digit increases in the cost of living."

Some people favour "institutionalizing" the federal government's 6 and 5 program at an even tighter level, the Council observes.

"For now we are not among them. We believe that all sectors of the economy have a responsibility to keep inflation down and to keep output and employment growth as high as possible."

The rise of nontariff trade barriers

The recession has spawned protectionism everywhere, and Canada is no exception.

There is no doubt where the Economic Council stands on this matter:

"This Council remains as committed as ever to the concept of freer trade as an instrument to further prosperity and as a part of the almost inevitable process of global integration," it says in its Twentieth Annual Review, *On the Mend*.

The protectionism decried by the Council is not in the form of tariffs – which have come down in recent years, and will drop further by 1987 – but in nontariff barriers of various kinds.

While nontariff protectionism can take many forms – including "safeguards," "orderly marketing arrangements," export subsidies, government procurement policies, domestic content rules and plain dumping – the most popular device is the quota.

"Quotas have proven to be an expensive means for cushioning workers against the threat of foreign competition," the Council notes.

"In particular, the total wages earned by workers protected by this means typically fall well short of the costs imposed on consumers through higher prices.

"Moreover, quotas can lead to resource misallocation even within the protected industry. For example, import quotas were found to have resulted in much stiffer competition in the high value-added, quality component of the clothing industry; at the same time, they encouraged Canadian producers to shift towards the lower-profit, low-quality end of the market."

The Council urges the federal government to resist the temptation to create any new nontariff barriers, and to support efforts within GATT to define a code of acceptable and nonacceptable behaviour in this area.

Meanwhile, the Council notes, the federal government now has in front of it an industry task force report calling for higher domestic content in auto and auto parts production – similar to proposals now before the U.S. Congress.

"We are mindful that, if they are applied widely by many countries and for many industrial goods, such proposals could seriously jeopardize the trade gains made through GATT – gains that have been carefully nurtured through the years and preserved through the most devastating recession since the Second World War."

In a broader context, the Council notes that some dramatic wage and cost increases in Canadian manufacturing during the 1970s have left many Canadian producers with higher unit costs and prices than in the United States. This, despite the 20 per cent decline in the foreign exchange value of the Canadian dollar during the late 1970s.

"In a dynamic world, therefore, in which a host of newly industrializing countries are rapidly moving from relatively simple manufacturing activities required unskilled labour to processing industries that are more capital-intensive and more technologically advanced, Canadian producers must dedicate themselves to the task of containing costs and increasing their productivity in order to remain competitive."

Parent-subsidiary trade

Intracorporate trade is growing, and it has distinct implications for Canadian competitiveness and growth.

It is the movement of goods and services between the parent and subsidiaries of the same firms.

It now is estimated that 87 per cent of all Canadian purchases from the United States in 1978 were made by U.S.-controlled enterprises.

Not all of that is imports by the subsidiary from the parent.

But a separate survey indicates that in selected industries the intracorporate portion of imports rose from 67 per cent in 1965 to 79 per cent in 1979.

Intracorporate imports range from 28 per cent in the food and beverage industry to 87 per cent in oil and gas.

It cuts the other way, too; intracorporate exports as a share of total Canadian exports amounted to 63 per cent in 1965 and to about 80 per cent throughout the 1970s.

Much of the intracorporate trade results from the auto pact, a clear case of where it raised the productivity of the firms in Canada.

More generally, the Council notes, the intracorporate relationship helps to assure stable export markets for the firms in Canada, and allows them to draw on the financial strength as well as the marketing and technical expertise of the parent firms.

Intracorporate transfers are among the fastest and most effective channels through which Canada gains access to new, sophisticated and expensive technological know-how, the Council says.

These other points are made by the Council:

- Many of the intracorporate imports are finished goods, not raw materials or partly processed items, and this suggests that in some cases the Canadian subsidiaries are performing "something akin to a wholesaling function that does not involve much in the way of industrial integration."
- As high as the intracorporate trade volume is, in the 1970s Canadian subsidiaries of foreign firms made only 40 per cent of their total purchases from sources outside Canada. The other 60 per cent came from suppliers in Canada.

The welfare-to-work transition

In its review of the various strands of social assistance making up the Canadian "safety net," the Council notes the difficulties facing those welfare recipients, particularly single parents, who wish to get back into the workforce. The problem arises because welfare assistance is reduced in proportion to each dollar of earned income – sometimes dollar-for-dollar, sometimes less. As a result, persons on welfare are often discouraged from seeking a job because much of the "added" income from working merely replaces part or all of the social assistance payments that they receive. It should be made easier for welfare recipients in Canada to accept part-time or full-time work without losing most or all of their benefits, the Economic Council says.

The study includes international comparisons in which Canada got mid-range marks, with welfare benefits less generous than some other countries but an income tax system that is lighter than most.

Yet the Council notes that the Canada Assistance Plan has not been altered in any major way since its inception in 1966.

It is the working poor who are getting little help from the system, the Council says.

"While the welfare eligibility rules covering outside income and liquid-asset ceilings and the level of basic social assistance allowances have been adjusted from time to time in response to inflation, these changes did not necessarily correspond to the improvements in living standards that have been enjoyed by the population at large.

"Moreover, the detailed scrutiny and continuing surveillance of the situation of each family, which is an instrinsic part of this needs-tested approach and has been a source of resentment on the part of the people concerned, is probably accepted even less widely today.

"In short, at a time when more persons have been thrust upon it, the welfare alternative, at least in some provinces, may well be a more desperate last resort than it ever was before."

The hardest-hit families are often those headed by sole-support mothers, the Council notes.

A woman in those circumstances faces considerable risk in moving off welfare. She must see to the children's day care and dental needs, and the like, and often because of these duties she is limited to low-paying jobs offering poor security and minimal social benefits.

"When only low-wage jobs are available for families with several dependants, full-time work may yield even less disposable income than complete reliance on welfare."

Some provinces have made various attempts to cope with such anomalies in the welfare system, but one recent study shows that only in Saskatchewan, Quebec, and Ontario was a family better off if its head worked for a full year at the minimum wage rather than depend on welfare. The net income advantage was greatest in Quebec, and even there total reliance on social assistance provided an income that was equivalent to over three-quarters the amount that would have been obtained had the family worked.

Shelter allowances vs. subsidized rental housing

A system of shelter allowances as the main way of providing housing help to those in need has been suggested by the Economic Council.

Urging the federal and provincial governments to consider such a scheme, the Council emphasizes that it is not recommending that the present system of subsidized rental housing be abandoned.

But the benefits of the rent subsidy program are flowing disproportionately to medium-income families, studies have found. Shelter allowances would be more closely targeted to families most in need.

"Whatever administrative difficulties they may entail," the Council says, "it has yet to be shown that such allowances are not a more efficient, and potentially far less costly, instrument for providing adequate housing to individuals and families in need."

"Moreover, the efficiency demonstrated by the private sector in developing and managing rental projects, including those aimed at low-income families, could be utilized more extensively if this approach were adopted."

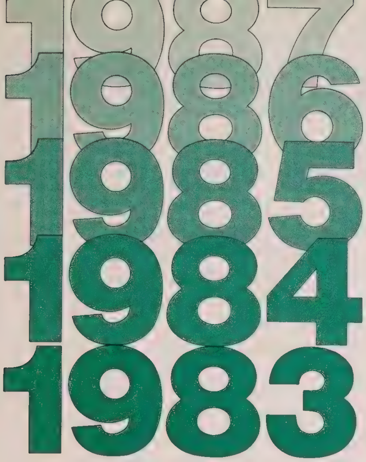
Some provinces have already initiated shelter-allowance programs, the Council notes. But the idea hasn't gone very far in Canada.

In 1980, it is estimated, over 500,000 Canadian households or 18 per cent of all renters were unable to rent adequate accommodation in their own localities for less than 30 per cent of their income – the measure of what is called "core housing need."

A shelter allowance would provide such people with a cash payment, the size depending on the rent paid or home ownership expenses, and on family size and income – perhaps with a ceiling on eligible rent or income or both.

Canada now has more than 260,000 subsidized housing units, most of them public housing units built by the provinces alone or in partnership with the federal government, or rent-supplement units made available by contracts with private landlords. Tenants pay rent on a graduated scale related to income.

Without social housing, it is estimated that the number of tenants in Canada paying out more than 30 per cent of their income for shelter would increase by about one-third.



UI vouchers would let the jobless "buy" a job

It's a "very distorted" system that allocates $1 billion to job creation programs and eight times that much to unemployment insurance, as happened last year, says the Economic Council.

The two programs, in the Council's view, should be more closely integrated and a bigger share of the combined funds should go into employment and training.

Moreover, the Council comes up with a novel idea:

Why not give vouchers to UI beneficiaries that they could use to "buy" a job? The employer could "cash in" the vouchers with the federal government, thereby recovering at least part of his wage costs. No new bureaucracy would be required.

Moreover, the voucher scheme should be especially attractive to smaller businesses who often have little interest in employment tax credits (because they pay little or nothing in taxes) or direct wage subsidies (which mean a great deal of paperwork and administrative monitoring).

The voucher system would reduce, at least, one of the biggest deterrents to small- and medium-sized companies hiring new people – namely, the hiring cost and the contributions that the employer must make to pensions, unemployment insurance, and perhaps other things.

There are problems with such a scheme, the Council admits. Favouring UI beneficiaries over those seeking their first job, it "might simply change the faces of the unemployed rather than their numbers."

And how many workers would still be employed once their vouchers ran out?

Using the UI fund in this way also would require a new consensus by the government, employers, and workers, since the fund has traditionally been administered separately from job-creating programs.

If the voucher system could be made to work for job creation, it might also be applicable to skill retraining, the Council says.

These and other possibilities should be studied by the government along with representatives of organized labour and employer associations, the Council says. The cost?

The Council says it has not made an estimate; that would be part of the task assigned to the study group.

"What can be said with some surety, however, is that, if Canada continues to experience double-digit unemployment rates, the automatic expenditure pressures of the UI system and the accompanying pressures for increased job creation and retraining will remain enormous."

Without doubt, the voucher scheme raises all kinds of problems and issues.

"Overall, without prejudging the outcomes of such considerations, one thing seems evident: when all the sums have been tallied, putting people back to work or usefully upgrading their skills will be less costly than continuing to support idle resources."

Medicare: Preserve access, but pare costs

Government efforts to improve the cost-effectiveness of the health care system in Canada are applauded by the Economic Council of Canada in its Twentieth Annual Review, *On the Mend.*

"We do not, however, endorse provincial initiatives that would have the effect of transferring to the sick and the aged what are now public expenditure commitments," the Council says.

Most provinces now charge monthly family premiums for medicare. Four impose or intend to impose daily hospital charges. Most provinces allow extra billing by physicians, and it is apparently extensive in Ontario, Alberta, and Nova Scotia.

Even in those three provinces extra billing – though information is not publicly available – is estimated to add not more than 4 per cent to average medicare costs.

But "the issues of extra billing and hospital user fees are of concern not so much because of their present inequity," the Council says, "but because of their potential as activities that could destroy the universal accessibility of Canada's health care system."

The provinces are urged by the Council to curb the application of hospital user fees and, whenever the accessibility of services is hampered, curb extra billing by physicians.

The provinces should also collect and publish information on the extra-billing practices of physicians.

More generally, the Council recommends that the federal and provincial governments not only safeguard the principle of universality, but that they work together to improve the delivery and quality of the program while containing costs.

Cost control is especially important now that the population has begun a gradual aging process which will put additional demands on the system.

"There is, in our view, substantial room for additional preventive care efforts, for the delivery of health care services through alternative modes such as health maintenance centres and community clinics, and for the expansion of paramedic services. There is also substantial room for improving the cost effectiveness of the existing facilities."

The same could be said for the educational system, the Council adds. The provinces are urged not only to watch costs closely, but to consider alternative ways of funding postsecondary education.

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Women's issues need more attention

Of the many economic issues facing women, four are identified by the Economic Council of Canada for early action:

1 Income tax exemptions for children should be shifted to a system of child tax credits that would tilt the advantage to poorer and single-parent families, most of them headed by women.

2 The pension system must work to avoid old-age financial insecurity for women who have spent much of their lives as mothers and homemakers, and are thus denied pension entitlements in their own right.

3 Where the private day care arrangements that most parents prefer are difficult to make, publicly supported day care facilities should be more available at a cost that working parents on a limited income can afford.

4 Provincial curricula, student counselling processes and adult education programs should be examined anew to encourage young women (as well as young men) to acquire nontraditional skills that will widen their occupational choice in years ahead.

The new reality of women in the workforce – where they now hold three of every seven jobs, compared with one in five in 1950 – is examined by the Council in its Twentieth Annual Review, *On the Mend*.

Over the past two decades, the Council notes, more than three million women have been added to Canada's labour force, encouraged by a range of factors – new methods of birth control, higher school levels attained by women, and the transformation of family patterns brought about by increased separation and divorce.

But progress in overcoming the "sex stereotyping" of jobs and in narrowing the male-female earnings gap has been slow.

In recent years thousands of Canadian women have entered educational courses and occupations once pre-empted by men, the Council notes. But many more thousands of women have gone into jobs that have been traditionally female. By some estimates, this occupational concentration of women accounts for 40 per cent of the earnings gap.

Historically large, that gap did not close at all between the end of the Second World War and 1971, and in the 1960s it may have actually widened because more women took part-time or part-year jobs. As that period ended, average women's earnings were about half those of men. They now are averaging closer to 60 per cent – modest improvement at best.

Moreover, the Council says, the gains are being made mostly by young women; older women lacking the specialized training needed for most of today's better-paid jobs are making even slower progress.

While everywhere there now is legislation stipulating equal pay for equal work, relatively few Canadian women so far are covered by the more comprehensive concept of *equal pay for work of equal value*, the Council says.

Admittedly, vigorous application of this principle will not be easy.

"Nonetheless, it merits serious attention as a lever for eliminating unjustifiable anomalies in pay structures and as a support for women generally, many of whom may be working in enterprises in which their job security and personal bargaining power are very tenuous."

Special attention is needed for one of the most serious problems – that of the single-parent woman, the Council says.

With a growing incidence of separation and divorce, one out of six families with children is now a single-parent family, and five out of six of those single parents are women. With every third marriage in Canada now ending in divorce, nothing indicates that this trend will slow down in coming years.

Three out of seven of such households are now below the poverty line, the Council says. Even if single-parent mothers can find a job, many have very low earnings, and in only one-third of cases is there a child-support award by the court. Less than half of debtor ex-husbands are honouring their obligations, and many do not pay the full amounts.

Stiffer provincial enforcement of parental-support obligations would help this situation, the Council says, along with changes in adult training programs and municipal subsidies for needed day care services.

The day care problem may not be as large as sometimes assumed, the Council says. While for 2.2 million preschool children in Canada in 1980 there were only about 110,000 places in day care centres and approved kindergartens, the vast majority of child care arrangements are private; it has been estimated that more than half of all preschoolers are under the care of persons other than their parents during working hours.

Nevertheless the problem is serious in some areas where private arrangements are difficult to make, the Council says. And if many couples have been postponing having children, increased child-bearing during the next few years may well produce a day care problem.

Single-parent mothers, among others, would be especially helped by the proposed shift to the system of child tax credits, the Council says. The present tax deductions for children offer little or no relief to many of these families, whereas higher-income families benefit greatly because their marginal tax rates are higher.

To all taxpayers, the value of the child tax deductions in 1982 was around $1 billion, the Council says. Redirecting them would have substantially increased the credits for which lower- and middle-income families – those earning less than $26,300 – were eligible.

Technology and the patent pipeline

In its recently released report, The Bottom Line: Technology, Trade, and Income Growth, _the Council examined a number of issues crucially affecting Canada's productivity slowdown and the consequent threat to living standard growth._

On this and the following page, Au Courant _takes a closer look at two of the issues raised: the dissemination of technological information via the patent system; and the effectiveness of government research and development (R & D) subsidy programs._

In searching for ways in which to speed up the spread of new technology throughout the Canadian economy, the Council notes that one such method already exists – one that can be used "to promote the diffusion of technical information and know-how more effectively, thus increasing the potential for quicker and more efficient technological advance in Canadian industry."

That method is the patent system, and the Council notes that it could be used by establishing a service for the diffusion of the wealth of technical information contained in patent descriptions. This is yet another measure that would ultimately raise living standards – the "bottom line" of all technology policy.

The concept of the patent system as an information-dissemination tool is by no means a new one. In fourteenth- and fifteenth-century Europe, the main reason for granting inventor's privileges to foreigners was to attract technical knowledge from abroad and to spread it throughout the domestic economy.

During the nineteenth century, it became generally recognized that written patent descriptions were an important source of technical information. By the end of the century, national patent laws reflected that recognition by requiring that inventions be classified and patent description indexes published, with free access for the public.

With the explosive growth of technology during the twentieth century, however, the informational aspect of patents has been almost completely neglected. It is only since the onset of the current worldwide economic slowdown, with a concurrent decline in the rate of patenting, that patent offices have had the time to turn their attention to the long-neglected half of their intended function – information dissemination.

Patent files, says the Council, can be regarded as a technical information bank – into which firms could tap, using it as an aid in technical problem solving and in idea generation. Diffusion of patent information would also enable potential users of technology to learn which firms had expertise in which areas, thus promoting technology transfer, both domestically and internationally. Given an effective patent information dissemination service, says the Council, the potential for more rapid and more efficient technological advance in Canadian industry would increase.

While some countries – notably Japan, Sweden, and Australia – have highly developed patent information services, Canada, along with the developing countries, falls at the other end of the spectrum, where no active diffusion of patent information takes place. This situation is anomalous, says the Council, because the Canadian Patent Office has the knowledge, if not the mandate, to deliver information to those who need it.

Although the Patent Act promotes the disclosure of technical knowledge by requiring that an inventor give a complete technical description of his/her invention in the application, it does not contain effective measures for promoting the spread of that technical knowledge. Thus it fails to fulfil what is viewed increasingly as one of the basic functions of a patent system – namely, promotion of the disclosure and diffusion of technical knowledge in order to encourage innovation.

In Canada, the marketing of patent information has been left to the private sector; however, these services are unable to adequately serve small and medium-sized manufacturing companies.

On the other hand, says the Council, the Canadian Patent Office – given the appropriate mandate – could immediately mount a patent information service aimed especially at small businesses. It could – unlike the private companies – do this in a cost-effective way, simply because most of the necessary overhead is already covered by the need to run the patent-granting part of its program.

The patent system in Canada is underutilized because it is little known outside the patent profession and large corporations. And it will remain so, says the Council, unless the Patent Office initiates an educational program to make businessmen and others aware of the variety of uses to which the system can be put.

Among other considerations, the Council concludes that if earlier disclosure of recent advances in technology increases the potential for industrial and income growth, then the present system of publishing at date of issue should be changed in favour of earlier publication – a practice being implemented increasingly in many other countries.

Another consideration would be the size of the fee to be charged for the patent information service. For fully efficient use of the service, a fee covering the government cost of providing the service should be charged. However, the fee could be reduced to below that cost if it were determined that there were social benefits in addition to the private benefits that businessmen are willing to pay for.

In any event, says the Council, the proper fee for users of a patent information service should be established by the Treasury Board. If a patent technical information dissemination program were to be implemented, strict monitoring of costs and careful estimation of benefits should be a condition for its existence, with a formal evaluation of the program by the Treasury Board after a three-year period.

R & D subsidies: room for improvement

Government programs designed to foster innovative activity by firms have been introduced in many countries in recent decades. These programs vary considerably among countries, as does their mix. In Canada, for example, much policy emphasis is placed on tax incentives and on various financial assistance programs offering loan guarantees, loans, and project-specific subsidies to firms. Such programs, says the Council, have great potential for improving productivity and living standards in Canada.

But under just what conditions should governments pay subsidies for research and development (R&D) projects? According to the Council, both of two conditions must be met:

- projects should be assisted only if they would not go ahead anyway, without assistance;
- projects should be assisted only if their benefits to society exceed the amount of the subsidy and its cost.

In addition, the Council notes that any program set up to grant such R&D subsidies should not only be based on sound criteria, but should also include adequate mechanisms for evaluation of operations and results.

Assessing the EDP

In evaluating a number of government R&D subsidy programs, the Council took a close look at the Enterprise Development Program (EDP). This program pays subsidies to firms undertaking approved innovative projects, the objective being to enhance the international competitiveness and productivity performance of Canada's secondary industry.

While the Council notes that EDP's objective is fully consistent with the Council's criteria for the subsidization of innovative activity by firms, it also observes that the underlying principle has been implemented inappropriately, insofar as the Program's "significant burden" criterion is concerned.

Incorporated into EDP's terms of reference, the "significant burden" criterion requires that applicant firms be classified by size, and projects by degree of risk. Then two tests are applied. One stipulates an approximate ratio between the project's total cost and the firm's tangible net worth, while the other stipulates approximate ratios between the project's annual cost and the firm's cash flows for the current and recent years.

Although these tests, and the "significant burden" notion underlying them, may have a legitimate, secondary place in the administration of a subsidy program, the Council notes that they don't in fact ask the right fundamental questions. In particular, they are not adequate indicators of whether the firm would proceed with the project if it were not subsidized. What determines a project's relative likelihood of being undertaken – with or without a subsidy – says the Council, is the relationship between its expected benefits and costs to the firm. The question of its burden on the firm's resources is quite secondary.

The Council also observes that the mechanisms for evaluating the results of the Program are inadequate – a failing that EDP shares with the Defence Industry Productivity Program (DIPP).

Enterprise Development Program
Contribution project approvals, by industry, 1981/82

	Number of projects	Project cost	Amount authorized
		($ thousands)	
Food & beverages	22	2,774	1,461
Clothing	22	646	475
Wood	22	1,373	1,030
Metal fabricating	30	3,506	2,388
Furniture	33	1,050	805
Transportation equipment	34	7,274	4,629
Machinery	123	81,044	39,684
Electrical products	153	173,755	56,086
Other industries	137	18,776	12,600
Total	**576**	**290,198**	**119,158**

Evaluating the DIPP

The primary objective of this program is to foster, mainly through subsidies, exports by the Canadian defence production industry of defence-related products and their civil counterparts.

While the subsidization of exports is questionable on general grounds – because of the danger that such subsidies could result in free net benefits to foreigners and in net costs to Canadians – there are some well recognized exceptions to this principle.

One such exception is national defence. Here we are considering industries and firms deemed essential to national security – an area in which defence production is, by definition, of central importance. In such a case, the focal point of government assistance should be the firm itself rather than any specific project it might undertake, the main aim being to enable the firm to continue in the same general line of business. It then becomes a question of determining what returns a firm could reasonably expect to earn from defence production, and whether such returns would be sufficient to keep the firm producing within the industry. If these returns are inadequate, a subsidy is justified.

In order to reconcile the goals of national security and economic efficiency, the Council recommends the establishment of a body responsible to Parliament that would be intermediate between the program administration and the subsidized firms – one that could be entrusted with the sensitive technical information usually involved in defence production decisions and that would also tend to regard itself as the protector of the taxpayers' interests.

The Council concludes that subsidy programs to foster innovation have a legitimate place in the government's tool box of measures designed to influence the economy in desirable directions. Much depends, of course, on how judiciously and effectively these tools are employed. In the Council's view, there is a good deal of scope for improvement.

Freer trade aids plant scale

Will trade liberalization lead to larger plant size in Canadian industry, as many proponents of multilateral tariff reductions have argued?

The answer is "often, but by no means always," according to economists J. Baldwin of Queen's University and P. Gorecki of the Economic Council. With assistance from J. McVey and J. Crysdale of Statistics Canada, the authors of a new discussion paper examine the impact of trade and tariff changes that occurred in the late 1960s and during the 1970s on efficiency and productivity in Canadian manufacturing industries. The authors use an extensive database for 1970 and 1979 on 167 industries in the Canadian manufacturing sector.

The productivity lag

Baldwin and Gorecki note that Canadian industrial productivity has lagged – and continues to lag – behind that of the United States. One of the causes of this disparity is commonly considered to be the small size of plants in Canada. Using a specially created database at Statistics Canada, the authors focus on the size of larger Canadian plants relative to larger U.S. plants, since the latter measure is then taken to be the indicator of minimum efficient size (MES) – the smallest size of plant that minimizes unit production costs.

The authors' findings on relative plant scale – the ratio of larger Canadian to larger U.S. plants – suggest that there *is* a scale problem, and that the problem of scale is more important in small rather than in large industries. On average, larger Canadian plants are approximately 70 per cent the size of larger U.S. plants in the corresponding industry (see chart).

Essential implications

The essential policy implications of the paper, however, relate to the debate over the impact of trade liberalization on relative plant scale. The most forceful advocates of free trade, say the authors, have argued that larger plant scale will result from multilateral trade liberalization. Others, however, have suggested that at least during an interim adjustment process, plant size in the import-competing sector of the economy could be reduced. The evidence provided in their paper, say Baldwin and Gorecki, suggests that there is an element of truth in both hypotheses.

On the one hand, increases in market size through trade liberalization in the past have led to increases in relative plant size – suggesting further gains for a U.S./Canada free trade area. Canadian export industries have capitalized on areas in which they have a comparative advantage, leading to larger plant sizes. Moreover, tariff reductions in particular kinds of industries selling in the home market – namely, high tariff/high concentration industries (which suffer considerably from small scale) – have also resulted in increased relative plant scale. These findings, say the authors, are consistent with the arguments of those who champion the benefits of trade liberalization.

Negative impact

However, Baldwin and Gorecki did find that in other industries selling in the home market, imports had a negative impact on relative plant scale – with several possible explanations. On the one hand, this may indicate successful adaptation resulting in a change in the character of the industry – a switch to finishing and assembling and/or to serving specialized market niches, for example.

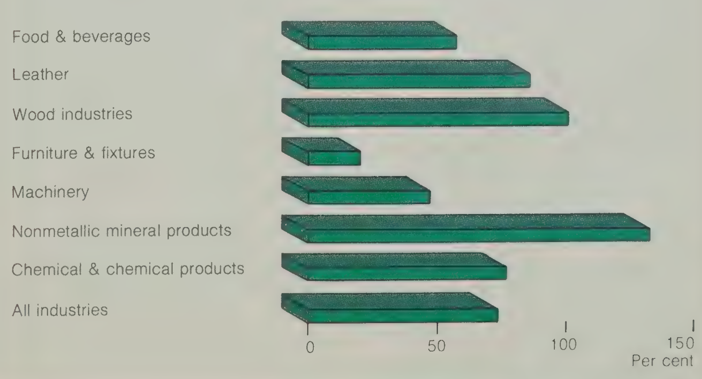
On the other hand, say the authors, this result is also consistent with the suggestion that government assistance to ailing firms may have slowed the adaptation process. Evidence from the authors' earlier work on entry and exit (*Au Courant*, Vol. 3, No. 4) supports this interpretation. In addition, the potentially easy adjustment mechanism of intra-industry trade has had no impact on relative plant scale – possibly because this mechanism tends to affect production runs rather than plant size.

The authors conclude that, on balance, there is much to support those who advocate freer trade, with their research indicating the problems and inefficiencies of the maintenance of high tariffs – especially in high concentration industries. Baldwin and Gorecki are careful to point out, however, that it is difficult to judge from the available evidence whether imports invariably result in rationalization and successful adaptation.

"Trade, Tariffs and Relative Plant Scale in Canadian Manufacturing Industries: 1970-1979," by J. Baldwin and P. Gorecki, with J. McVey and J. Crysdale. Discussion Paper No. 232.

How Canadian plants size up

Relative Canada-U.S. plant scale by industry, 1979 (U.S. = 100 per cent)



Ontario Hydro productivity performance

An assessment of Ontario Hydro's productivity performance over the period 1956-80 is the subject of a new Economic Council paper.

Council economists Michael Daly and Someshwar Rao note that while much interest in Canada's productivity slowdown has been generated at both the national and industry level, it is at the firm level that the measurement and explanation of productivity growth is of greatest importance. If firms are to be managed efficiently, say the authors, productivity assessment needs to be integrated into the process of managerial control and planning.

Increased share

The growing importance of electric utilities in the Canadian economy is reflected in the fact that the share of real domestic product attributable to this sector increased from 2.1 per cent in 1971 to 2.6 per cent in 1979. Any slowdown of productivity growth in the electric power sector may thus have some impact on the rest of the economy because electricity is used as an intermediate input by virtually all other industries.

As one of the largest producers of electricity in North America, Ontario Hydro accounts for roughly one-third of the sector's total output in Canada – making it a suitable candidate, in the view of the authors, for a productivity growth assessment. This was done by separating total factor productivity (TFP) growth into components that might be associated with capacity utilization, scale economies, and technical change.

Daly and Rao note first that Ontario Hydro's productivity performance from 1967 on compares quite favourably with that of the rest of the economy. From 1967 to 1980, TFP growth averaged 1.28 per cent annually at Ontario Hydro as opposed to 1.16 per cent for the economy as a whole – with the decline in growth much less marked for Ontario Hydro in the post-1973 period.

The slowdown in productivity growth that did take place in the 1974-80 period, say the authors, may be attributable to two main developments, both of which were largely beyond the Corporation's control.

First, and most important, there was a marked decline in the growth of demand for electric power as a result of the general slowdown in overall demand – compounded, in the case of Ontario Hydro and other electric utilities, by measures designed to encourage energy conservation in the wake of the OPEC oil price increases. Second, technical progress slowed down mainly because of increasing fuel prices.

National Film Board

Hydro power dam

Road to improvement

According to the authors, however, there are a number of steps that could be taken to improve Ontario Hydro's productivity performance. The existence of substantial scale economies also suggests that there is a significant trade-off between the benefits of electricity conservation and productivity growth.

As a result, say the authors, to the extent that scale economies in the production of electric power are greater than in other energy producing sectors such as oil or gas, then energy conservation measures would appropriately place more emphasis on encouraging the substitution of electricity for other energy sources.

Ontario Hydro could adopt a more aggressive marketing strategy in order to increase its sales relative to those of its competitors in the oil and gas industries – and not just in Ontario, but in export markets as well.

In addition, rather than promoting the conservation of electricity in general, the introduction of "peak load" or "time of day" pricing structures could be considered so as to encourage more stable usage patterns by consumers. Such a measure could improve productivity by flattening the load pattern, thus increasing the level of capacity utilization and leading to fuel economies that would at least partly offset the adverse impact on technical progress of increasing fuel prices.

Finally, say the authors, the importance of electric power as an intermediate input for other sectors of the economy implies that improvements in Ontario Hydro's productivity performance could have a salutary effect on TFP growth elsewhere. Evidence suggests that in most manufacturing industries, technical progress is energy-using. So if improvements in Ontario Hydro's productivity growth are reflected in a slower rate of increase in electricity prices, technical progress will be given a boost, thus improving TFP growth in the manufacturing sector.

"Productivity Growth, Economies of Scale, and Capacity Utilization in the Canadian Electric Power Industry: The Case of Ontario Hydro," by Michael Daly and Someshwar Rao. Discussion Paper No. 236.

Western transport in perspective

The railway freight rate system has forced westerners to be hewers of wood and drawers of water for the rest of Canada. Right?

Well, not exactly, says W. G. Waters, a University of British Columbia professor, in a discussion paper prepared for the Council. There is no doubt the western economy is primarily rooted in resources and it has been hard to develop a widespread industrial base. But the University of British Columbia economist says that can't be blamed on the transportation system. In fact, in his view, the existing rail freight rate system is the most efficient and flexible pricing method for assisting economic growth in the West.

National Film Board

A western railway terminal

Governments may want to encourage more manufacturing and processing in the West, says Waters, but tinkering with the freight rate system is not the way to do it. The impact of transport pricing on modern economic development has been "grossly exaggerated."

Along with the rail freight rate system, the Waters study discusses the so-called "Crow" grain freight rate issue, and outlines likely developments in western water, road, air and rail transport.

Key issue

Transport has always been a key issue in the West, partly because western products are a long way from major markets in eastern Canada and overseas. One popular view is that rail freight rates discriminate against manufacturing and processing in the West. Critics point to the lower cost of shipping some primary products East than of transporting finished goods. And some have objected to the cost of bringing some eastern supplies West for further manufacturing. Waters does not deny that transportation has been crucial to some economic developments. Lower transport costs can help a marginal company survive or allow a marginal supplier to enter the market. But the impact of these firms on the market may be small, so the author cautions against using these examples to build a case for using freight rates as a tool to develop western industry. Another popular view is that railways face less competition in the West than they do in the East, and this may affect freight rates. Bulk commodities are still the foundation of the western economy, and they are best handled by rail. Because there is less competition from other modes of transportation for these goods, some critics suggest they may pay an unfair share of the transport costs of all goods carried by rail.

It's hard to trace costs to specific services because trains may handle several products at one time. But Waters says rail revenue per ton-mile is actually lower in western Canada than in the East. Many western products are low-valued in comparison with eastern goods; charging too high a price would simply stop shipment of these items. Under the current rate system, railways have the incentive to set prices sufficiently low to encourage traffic to move. They include direct operating costs in their rates but they are free to charge a mark-up to cover other expenses. This mark-up reflects the shipper's ability to pay and gives the railways the freedom to adjust rates according to circumstances. In fact, "a more rigid pricing formula could prevent some traffic from being moved at all," says Waters, who finds flaws with alternative rate-setting proposals.

The current rate system is the most flexible, he says, and it has helped the West grow economically. The real issue is not economic, but social and political. The social and political goals of building western industry may be good, but freight rates should not be used to achieve them.

The Crow rate

The one consistent rate distortion, Waters says, has been the Crows Nest Pass grain freight rate, written into law decades ago and well below the railways' cost of hauling grain. The Crow rate is not only an anomaly in that railways can't cover costs of carrying grain, but it distorts what is produced in the West and how it is transported. But the author hails the federal government's recent efforts to change the Crow rate legislation as a needed step to reform of the grain delivery system.

The legislation provides more than $650 million to the railways, but Waters says this will only help cover existing losses without necessarily expanding the main rail line system. Increased spending on rail expansion may be needed because rail traffic is growing rapidly on western lines.

Turning to other transport systems, Waters says one of the major issues for road transport – and for airlines as well – may prove to be deregulation in the United States. The author suggests deregulation may become a growing irritant in U.S.-Canada relations because there is a good deal of cross-border traffic, and the policies of both countries may conflict. There will be pressure for greater co-ordination of interprovincial trucking regulations, he says, and some deregulation is likely.

Waters' general conclusion is that transport is not a prime mover in economic growth, but can help it along. Certainly, it is not what determines how the western economy is going to grow.

"Transportation, Transport Policies, and the Future Development of Western Canada," by W. G. Waters. Discussion Paper No. 234.

S·P·E·A·K·I·N·G · O·U·T

CANDIDE, the Economic Council's econometric model, is undergoing a major overhaul that is likely to take another year.

Econometric models are a little like cars, says Ross Preston, director of the CANDIDE group; they sometimes get rusty and need refurbishing. Occasionally, you have to get a new one.

Developed in the early 1970s for the Council and several federal government departments, CANDIDE has become an essential tool in the Council's work.

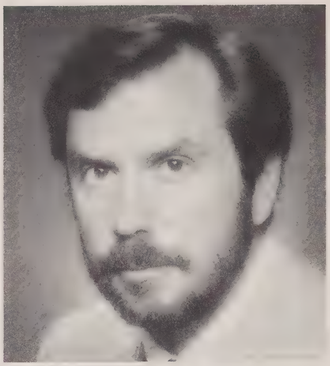
To find out what an econometric model does and why CANDIDE needs to be updated now, *Au Courant* interviewed Preston recently. His links with the model date back to the early days when he was consulted by CANDIDE's originators while he was executive director of Wharton Econometric Forecasting Associates in Philadelphia. He has been head of the CANDIDE group since 1976.

***Au Courant:** What is an econometric model in laymen's terms?*

Preston: When you make a decision, when anybody makes a decision, they have a frame of reference that they use to help make the decision. Everybody at some point sits down and tries to make an estimate of what his chequebook balance might be three months from now. He does that by figuring out what the inflow is going to be, what the outflow is going to be and then computing what this implies for his balance. In a model, we are doing nothing more than that. We're starting out with initial estimates which usually are known, we're making educated guesses about what we think patterns of variables are going to be, and at the end we're making an estimate as to what the ending balance is going to be based on the arithmetic.

***Au Courant:** Why was it necessary to make changes now to CANDIDE?*

Preston: The answer to that is straightforward. Time in Canada does horrible things to cars, they



Ross S. Preston

rust. Time does the same thing to models. They rust. Let's give an example – income tax indexation. If you were to use a model based on pre-1972 personal tax behaviour, it would not have the indexation formulas or structure in it. If you were to make projections with that kind of a model into the future where the starting point for the projections was 1972, you would overestimate tax collections, because you hadn't accounted for indexation.

What happens over time is that institutions change and behaviour changes. There's been a tremendous proliferation of financial instruments. New accounts, chequable savings accounts, all of that is new. There have been tremendous changes in international monetary linkages since the floating of the dollar in 1972. Although the initial impacts were in the data in 1973, 1974 and 1975, the full impact of these changes didn't show up until the mid- and later 1970s. And that's basically why we go out and build new models – because they get old, because the principles upon which they're based get outdated, the data base gets old, and in fact the data base gets revised. What Statistics Canada turns out is only a version of truth, and this version of truth depends upon collection methods, their sampling errors, all sorts of things. They change their version of truth every once in a while. And economists have to react to that by going back and reassessing behaviour.

***Au Courant:** What other reasons are there for altering the model?*

Preston: I mentioned that financial institutions changed dramatically – another area is savings behaviour. Canadians used to save an average of 6 to 8 per cent of their income. All of a sudden at the end of the 1970s and early 1980s, they began to save 11 to 15 per cent of their income. That has a marked impact on consumption patterns. And nobody's model caught that big shift in savings pattern. In other words, our past understanding of the way to quantify savings behaviour in a model just did us no good in trying to project savings behaviour.

***Au Courant:** So when you look at the finished model, it will be different from the previous model in what way?*

Preston: Well, first of all, it will be based on an updated data base. The older model was only calibrated or estimated through 1974. So the sample period, or the period upon which the model was based was from the early 1950s to 1974. The new version of the model will be based on data from the early 1950s to 1981, so that we will have the advantage of having 1975 to 1981 data in.

***Au Courant:** How does the new data change things?*

Preston: One of the things that we didn't have much information on was the two oil price shocks in our old sample period. And we also didn't have that rapid period of inflation between 1975 and 1980. We must make sure we understand what their impact was on the Canadian economic environment. One of the things that building the new model will do is help us in understanding a little better the impact of inflation on investment decisions, on savings decisions, the impact of inflation on government deficits, the impact of oil price shocks on inflation, the impact of oil price shocks on productivity, if

any. All of those issues are issues that we could not study when we built the previous model because we didn't even have any data for them.

Au Courant: How has the Council used CANDIDE to help formulate public policy in the last 10 years?

Preston: The model has been used in various Annual Reviews of the economy. It helps focus the Council's attention on possible solutions to problems. In a sense, it is a laboratory that the Council can use to try out policies before it actually makes recommendations. It is a useful device for trying to uncover problems before they develop. A policy that may look good on paper may show weaknesses when you try to implement it. A model helps to reveal these weaknesses when you view the policy in the context of the economy as a whole. In its own right, a model is also useful in making predictions about future economic events.

Au Courant: How successful has CANDIDE been in meeting these objectives?

Preston: There were cases where we were extremely successful. There were other times when we weren't able to predict with certainty. But it is useful even then in that we are able to play the "what if" game by elaborating on a variety of outcomes. Being aware of these in advance, policy makers are able to take evasive action by way of policy recommendations before a problem gets out of hand.

Au Courant: How does CANDIDE compare with other econometric models that are used at this point in Canada? Some are more regionally oriented than others. How does ours compare?

Preston: Well, models can be disaggregated in time or in space. Every one of them is different for a number of reasons. Each model has been designed to deal with a particular set of questions. Let's take CANDIDE. CANDIDE is an annual model – the time framework of the model is annual. The University of Toronto model is a quarterly model. It projects what's going to happen in the next quarter, the quarter after that, and the quarter after that. CANDIDE projects what's going to happen next year, the year after that and the year after that. The Council's mandate is medium to long term. An annual framework is all we need in order to deal with medium-to-long-term issues.

Au Courant: You also mentioned disaggregating – breaking down – the model in space. What do you mean by that?

Preston: Well, one of the Conference Board models is set up to make judgments, make predictions about what's going to happen in each one of the provinces. Our model does not have provincial detail. However, our model is disaggregated by industry. We can tell you what's going to happen in the automobile industry, the lumber industry, the petroleum industry or the chemical industry. We're interested more in structural issues, where the unit of measurement is employment in the automobile industry or the textile industry. And therefore we've collected and organized data that way.

Au Courant: Why has it been riskier to make economic projections in recent years?

Preston: Well, I think one of the problems is that inflation has acted as a fog and has clouded many of the behavioural relationships. In other words, it's changed them in a way which we didn't anticipate. I think one of the things that economists missed the boat on was the impact that the highly inflationary environment might have on things like savings, investment, government spending policy, etc. To put it rather simply, we know acceleration due to the gravity of the earth is 32 feet per second per second. Suppose for some reason we all got up the next morning and it was 15 feet per second per second. You would take a step out of the bed and you'd hit the ceiling and wonder what was going on. In a sense, in the latter 1970s, that's exactly what happened to economists. All of the things that we thought were constant, many of the things that we thought we could depend upon as being very, very ingrained and fixed, all of a sudden began to come apart at the seams. And none of our theories were of any use any more in helping us to predict the future.

Au Courant: Were there other factors?

Preston: The 1970s was not only a story of changing economic behaviour, it was also a story of international political economy. All of a sudden we were beset by a whole series of problems that resulted from international power politics. The oil crisis was one. The way the United States started to use food was another. In history there are events which are noneconomic in their root which affect economics or the economy of nations tremendously. Droughts, food crises, famines, the Russian crop failures in the early 1970s shot the price of food sky high. One of the issues that has never been really treated adequately is the inflation issue, how inflation got started and what impact it might have once it was ingrained. I think economists basically didn't count on inflation getting started and then getting ingrained. And once it did, they didn't know how to deal with it in their models.

Au Courant: What with the steadying down of inflation and the seeming stabilizing of the price of oil, do you think things will be easier again for econometrists in the coming years?

Preston: You can answer that question in the following way. When an aircraft company builds an airplane, it hires a test pilot to take it up. I think the late 1970s was a period where in fact we test piloted the economy and found out how to make the wings fall off, how to make the landing gear collapse, and how to make it fall out of the sky. Whether or not we'll remember in the 1980s that we wrote that book is another issue. In a sense I have my doubts whether the 1980s are going to be any easier than the 1970s, primarily because I think people have short memories.

Au Courant: Can you elaborate on that?

Preston: I think that there was a period in the 1950s when we went through the same kind of mini-problem. The current period is very much like that period. I'm not a cynic in this area but I am realistic enough to realize that certainly there is going to be a group of problems in the 1980s that will be just as difficult to deal with as those of the 1970s. And if it's not in the 1980s, it's going to be in the 1990s.

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WORKING TO IMPROVE
CANADA'S POLICY PERFORMANCE

Economic policy performance has never been of such crucial national interest as in the 1980s. Each and every Canadian is affected in some way by our energy policy options, by the relationship between our industrial and market structure, or by business income taxation – to name but a few of our concerns.

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We are an independent advisory body seeking to improve Canada's economic performance, not through policy making but through the following important roles:

Consultation

The Council consists of economists, specialists, and citizens from a variety of disciplines, activities, regions, and socio-economic groups. Together, we consult and advise – interacting with various governments and groups, studying, analysing, and making recommendations on significant Canadian economic issues and policies.

Research

Our staff of experts, assisted by technical and support services, provides original research and background information on many specific topics, focusing mainly on the medium- and longer-term problems of the Canadian economy.

Information

The Council also endeavours to educate and inform the Canadian public with respect to economic problems and possible solutions by making its findings and recommendations known to the media and to the individuals and groups involved in discussions of public policy.

Whether the issues we address are as regional as the development of Western Canada or as national in scope as the problems that face women in the marketplace, the Council continually seeks to improve economic policy and its impact on Canadians.

Economic Council of Canada

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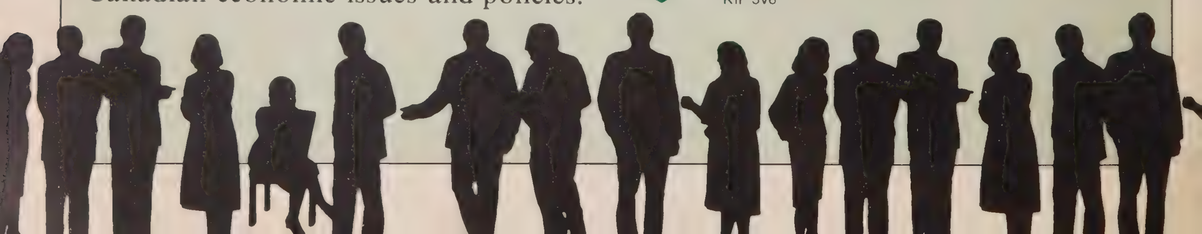

au courant

Economic Council of Canada

Volume 4, No. 3, 1983

Foreign trade issues

A new approach to productivity

Alberta's energy supplies

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). Two new titles have been published since the last issue of *Au Courant*:

Canadian Productivity Growth: An Alternative (Input-Ouput) Analysis, by *H. H. Postner* and *L. Wesa* (EC22-115/1983E; $6.95 in Canada, $8.35 elsewhere)

Government Assistance to Export Financing, by *A. Raynauld*, *J.-M. Dufour*, and *D. Racette* (EC22-114/1983E; $7.95 in Canada, $9.55 elsewhere)

Reprints

The following Council report and research study have been reprinted, and can be ordered according to information below:

Responsible Regulation: An Interim Report (EC22-70/1979E; $7.25 in Canada, $8.70 elsewhere)

Minimum Wages: The New Issues in Theory, Evidence, Policy and Politics, by *E. G. West* and *M. McKee* (EC22-81/1981E; $12.25 in Canada; $14.00 elsewhere)

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No. 240 "Government and the Residential Mortgage Market II: Programs and Evaluation," by *G. Fallis*

No. 241 "The Impact of Environmental Regulation on Productivity Growth," by *W. A. Sims* and *J. B. Smith*

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No. 244 "Statistical Problems of Relating Research and Development Data to Productivity Data," by *H. H. Postner*

No. 245 "L'évolution des disparités linguistiques de revenus de travail au Canada de 1970 à 1980," by *J.-A. Boulet* and *L. Lavallée*, assisted by *C. Pedro* and *M. Poulin*

No. 246 "The Alberta Economy 1980-2000: Theme and Variations," by *T. T. Schweitzer*

No. 247 "Trade, Tariffs, Product Diversity and Length of Production Run in Canadian Manufacturing Industries: 1970-1979," by *J. R. Baldwin* and *P. Gorecki*, with *J. McVey* and *J. Crysdale*

No. 248 "Productivity Trends and their Causes in the Canadian Mining Industry, 1957-1979," by *K. R. Stollery*

No. 249 "The Supply of Oil and Gas Discoveries in Alberta, 1947-1985," by *J. Jobin*

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au courant

Volume 4, No. 3 1983

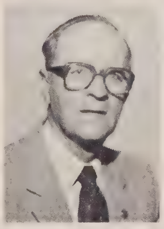
Energy issues

Productivity

International trade

Roger Olivier Beauchemin

Raymond Blais



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ISSN-0226-224X

Trade liberalization would pay off

Trade liberalization will lead to improved efficiency in Canadian manufacturing and the improvement will benefit large as well as small firms.

A paper prepared for the Economic Council looks at the effect of tariff restrictions on the size of plants and product diversity. It is part of a series done by economists John Baldwin of Queen's University and Paul Gorecki of the Economic Council. They were assisted by J. McVey and J. Crysdale of Statistics Canada. Their previous work examined trade barrriers and plant scale and trade barriers and product diversity. This effort goes a step further, to examine the relationship among the three factors.

Canada's sagging productivity has often been blamed on the smaller size of plants (compared with the United States) and too much product diversity. Both of these, in turn, are linked to trade barriers. However, little data has been available to test these propositions, especially concerning the impact of product diversity. This has prevented much research from being done on the subject. The authors of this paper had access to a great deal of data through a special arrangement with Statistics Canada.

Product diversity

They decided to examine product diversity on an industry basis by comparing the average Canadian plant size with the size of plant at which U.S. firms build a second plant. Such a comparison permits the relationship between diversity and economies of scale to be studied. The more important plant scale economies are, the greater the incentive to add more products (to take advantage of the plant economies). In turn, the more products, the larger plants will be before firms build a second plant.

By comparing average Canadian plant size with the U.S. branching plant size, an indirect way of analysing product diversity is available, since product packing will not be as important in the U.S. because, on average, the market there is much larger.

Tariffs

The analysis shows that tariff restrictions led to larger plant sizes in Canada relative to the United States. In addition, where diversity was high, Canadian plants were larger relative to U.S. plants when they branched. Finally, the larger the size of market, the closer the similarity betwen the Canadian and U.S. plant size. These results show that the main benefit to diversity was larger plants. However, this is accomplished at the cost of "excessive diversity" as the firm packed as many products as possible into a single plant.

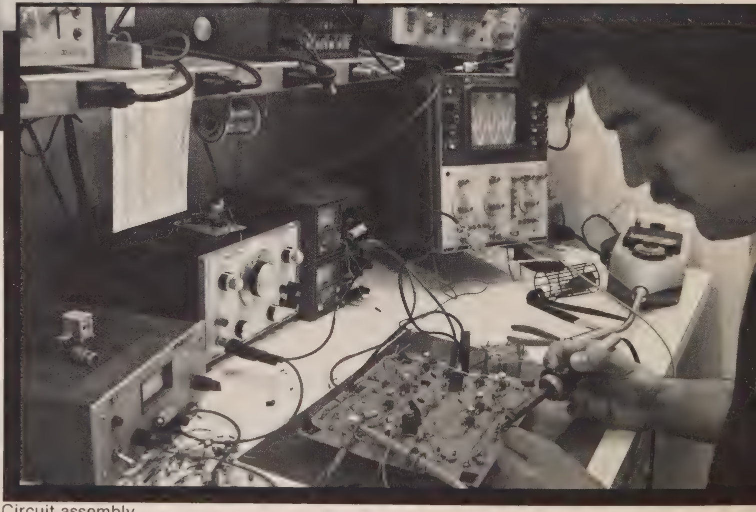
In earlier work, the authors found that in comparing larger Canadian with larger U.S. plants in high tariff/high concentration industries, Canadian plants were smaller than U.S. plants. When tariffs dropped in the industries, plant size in Canada increased relative to that in the U.S. – evidence of unexploited scale economies.

Regardless of whether the plant is, on average, large or small, the authors' research shows that trade restrictions were costly in terms of efficiency for the Canadian manufacturing sector.

"The Relationship Between Plant Scale and Product Diversity in Canadian Manufacturing Industries 1970-1979," by John R. Baldwin and Paul K. Gorecki with J. McVey and J. Crysdale. Discussion Paper No. 237.

National Film Board

Worker monitoring production



Circuit assembly

Government assistance to export financing

On the surface, export subsidies make good sense – they are designed to make Canadian goods and services more competitive in world markets.

But at what cost? Are the pay-offs to the economy worth the billions of dollars poured into subsidies, particularly by the federal Export Development Corporation?

A recent study carried out for the Economic Council concludes that the cost to the economy of the federal program was a net loss of $1 billion to $2 billion between 1970 and 1980. With this in mind, the authors question whether the current EDC program is the best way to increase exports.

Written by former Council chairman André Raynauld and University of Montreal colleagues Jean-Marie Dufour and Daniel Racette, the study report says a simpler way to stimulate exports would be to eliminate tariff barriers.

Research for the study contributed to the major Council report on government lending, titled *Intervention and Efficiency*, which was released in late 1982.

Export promotion

EDC loans, credits, and insurance support are only about 5 per cent of the $85 billion a year in Canadian exports. But roughly 70 per cent of Canadian trade is with the United States where EDC financing is less important.

Raynauld and his co-authors set out to determine whether these financing services are useful.

They also want to find out whether the objectives for the EDC make good sense; whether these objectives are achieved; and whether the export aid programs benefit the economy as a whole.

They pinpoint five basic reasons for federal export aid developed since the EDC's predecessor, the Export Credits Insurance Corporation, was first created almost 40 years ago. These include promoting exports, diversifying trade, boosting processed goods and some services, supplementing the private sector, and matching foreign export aid programs.

Has the EDC reached these goals? And are the objectives good ones?

Room for improvement

As a corporation, the EDC does a good job, say the University of Montreal researchers. But they find flaws in the tasks chosen for the corporation.

For instance, they say the government objective of promoting exports is too vague. Landing a giant foreign contract "is no reason, in itself, to pat ourselves on the back." After all, money for the export subsidy is taken from other sectors of the economy which also produce jobs.

So they urge the government to tie export aid to benefits for Canada, much as the Foreign Investment Review Agency demands evidence that foreign investment in this country will yield additional benefits to Canadians.

Benefits of aid

One way to measure benefits is to point to additional jobs or to an improved trade balance.

But simulations carried out for the study show that it is useless to artificially stimulate exports when these are offset by imports, say the authors. The net result of such government intervention is no increase in jobs and no improvement in the trade balance.

The EDC programs do help diversify trade, one of the corporation's goals — almost two-thirds of its credits are granted outside the United States and Europe. But it is hard to measure these benefits to the country as a whole, says the Raynauld study.

The EDC seems to have gone some way to meeting the government priority on exports of processed goods and services. But the University of Montreal researchers take no position on whether this is good or bad economically. They say the debate about reorganizing Canada's industrial structure is still unsettled.

On the goal of supplementing the private sector, the authors say there is a danger the EDC will duplicate the services of private banks abroad. The federal corporation may want to open offices abroad, short-circuiting the already extensive private network.

Private role

Already, they say, Canada shuts out private financial institutions from public export financing more completely than any other country. They suggest the EDC prefers to negotiate directly without consulting private banks and yet later asks the banks to participate in the loans.

The Raynauld study supports the Council's view in *Intervention and Efficiency* that there is room for a greater private role in export financing.

To see whether government investment in export financing is economically worthwhile, the authors look first at the financial flows of the EDC and then examine the economic costs of putting money into public export promotion rather than elsewhere in the economy.

They find that the EDC's financial cost of borrowing in the 1970-80 period was only half a percentage point higher on average than its return on investments. So the deficit on lending operations was small.

Looking at the overall economic cost, they choose several different rates for the social opportunity cost of capital. After substracting the net real rate of return on export loans, they determine that the economic cost of EDC intervention was between $1 billion and $2 billion in the 1970-80 period.

The authors say the gains to society should at least equal this amount if the EDC is to be judged socially beneficial. These benefits are not measured in the study.

Supporters of public export financing say that, since other governments subsidize exports, Canada must do the same or risk losing customers. But the Raynauld study rejects this argument. The authors say money spent on exports should have a reasonable chance of earning enough to recover costs over a suitable period of time.

Government Assistance to Export Financing, by A. Raynauld, J.-M. Dufour and D. Racette (EC22-114/1983E; $7.95 in Canada, $9.55 elsewhere).

A new look at productivity

For many Canadians, the word "productivity" conjures up a mental picture of a boss trying to squeeze more work out of his employees.

But there is more to understanding and improving productivity than a whip-cracking boss. Economists know that a variety of factors from technology to management go into productivity growth, but they are not yet satisfied they have a complete grasp of the problem.

Now, two Economic Council researchers, Harry Postner and Lesle Wesa, have come up with a different way of measuring productivity, which casts new light on Canada's recent performance. In fact, their approach calls for a fundamental change in thinking about productivity.

The new tool they have developed may help policymakers in trying to improve productivity in coming years.

For example, the Postner and Wesa study points to specific industries where technological improvements could have a significant impact on productivity in the economy as a whole. These include communications, finance, insurance, and real estate, and services to business.

The recently published study also demonstrates, for the first time, that domestic research and development contributes to improved productivity. But the pay-off is often indirect: research and development in one industry leads to improvements that help another industry.

New approach

Traditionally, economists conceive productivity to be based on the output and labour employed in a particular industry – their thinking is production-oriented. But Postner and Wesa say the goal of raising productivity should be to increase the goods available for consumers. So, the emphasis should be on final consumption.

The value of this approach, the researchers say, is that it gives policymakers greater choice in selecting ways to improve productivity. For instance, rather than trying to boost productivity in all industries at the same time, you can centre your efforts on those that directly or indirectly have a key impact on goods bought by consumers.

The conventional way of measuring productivity is output per person employed. To calculate productivity in a particular industry, you take gross domestic product and figure out how much it would be per person employed.

But Postner and Wesa have devised a method that is more complete at the industry level. It includes the impact of one industry on another and the influence of international trade. It contains contributions from outside a particular industry, such as raw materials, energy, and contracted-out services.

In calculating productivity, they include the contributions of all industries to the final product bought by the consumer. The contribution may be very indirect, perhaps raw materials or a component manufactured several stages before final assembly. All this is converted into the labour needed to produce these items.

For example, more goes into making a new car than the final bolts screwed in an assembly plant. Rubber, steel, plastics, electrical products, energy, and financial and business services all contribute.

Different results

Using 1961-76 figures, the researchers find the two methods produced sharply different results in some industries. But the differences were not as great at the economy-wide level where the average growth rate for productivity was exactly the same under both methods until 1971. After that it dropped faster under the older procedure.

The new method reveals that the leveling of productivity growth in the 1973-78 period was not the same across all industries. It was mainly concentrated in the mining industries, petroleum and coal, construction, and transportation and storage.

It also shows the pervasive role played by the agriculture and transportation and storage industries in improving productivity in the past. Both took big strides technically in the 1960s. They were directly or indirectly linked to a wide variety of other industries, and so their influence was widespread.

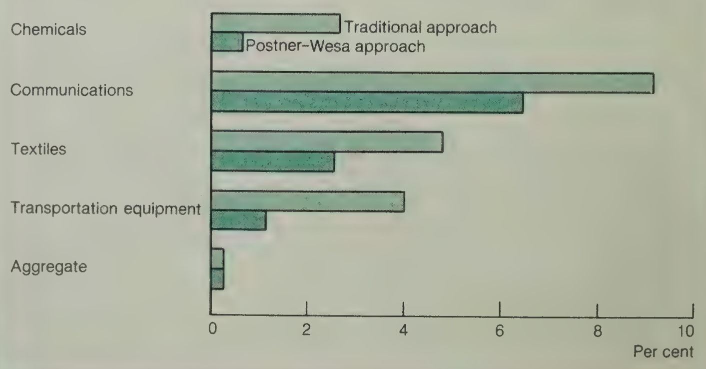
But now the communications, services to business, and finance, insurance, and real estate industries seem better placed to take on that job, the researchers say. More technical change in these industries could have a broad influence.

In effect, they also urge Statistics Canada to start producing productivity figures, using the new measurement tool. They also suggest the federal statistics agency should collect additional information on research and development to fill important gaps.

Canadian Productivity Growth: An Alternative (Input-Output) Analysis, by H. H. Postner and L. Wesa (EC22-115/1983E; $6.95 in Canada, $8.35 elsewhere).

A comparison of two productivity measures

Average annual growth rate of productivity in selected industries, 1973-1978



NEW APPOINTMENTS TO THE ECONOMIC COUNCIL OF CANADA

ROGER OLIVIER BEAUCHEMIN

Roger Olivier Beauchemin is a consulting engineer from Montreal. He is president of Arrowby Consultants Inc. and senior partner of Beauchemin-Beaton-Lapointe Inc. He serves as chairman of the board of The United Provinces Insurance Company and as a director of Canadian Marconi Company, Cansult Ltd., Fondation Fournier-Ethier Inc., National Westminster Bank of Canada, and Stablex Canada Inc.

GORDON L. HILL

Gordon L. Hill is a farmer from Varna, Ontario, and is president of Hill and Hill Farms Limited, a pork, beef, and cash crop operation run by his partner son. He is a member and vice-chairman of the Ontario Bean Producers' Marketing Board. He is a former president of the Ontario Federation of Agriculture and the Ontario Farmers' Union, and is a former member of the Canadian Agricultural Stabilization Board and the Ontario Farm Products' Marketing Board. Mr. Hill has also served on various Ontario and federal agricultural enquiries.

RAYMOND BLAIS

Raymond Blais is a chartered accountant and president of the Confédération des caisses populaires et d'économie Desjardins du Québec and the Caisse centrale Desjardins du Québec in Lévis. He is a member of the board of the Caisse de dépôt et placement du Québec and has served on the boards of the Fiducie du Québec, the Crédit industriel Desjardins, and the Economic Council of Lévis-Lauzon.

PETER P. PODOVINIKOFF

Peter P. Podovinikoff is a certified general accountant and chief executive officer of the British Columbia Central Credit Union in Vancouver. He sits as a director on the board of the Canadian Co-operative Credit Society and is a member of the International Projects Advisory Committee of the Co-op Union of Canada. He has served as president of the B.C. Credit Union League, as a director of the World Council of Credit Unions, and as a member of the board of the Co-op Trust Company of Canada.

Alberta's energy supplies reassessed

The outlook for Alberta's energy supplies is a bit brighter than even the most optimistic forecast made by the National Energy Board (NEB) in 1981, says Council economist Jacques Jobin. In a paper prepared for the Council's western project (*Au Courant*, Vol. 3, No. 1), he estimates that about a quarter of potential oil reserves remain to be found. The NEB's highest estimate was that a fifth remain undiscovered. Jobin is also more optimistic, on balance, about natural gas reserves.

In attempting to estimate how many new discoveries are still to be made in Alberta, Jobin began by using conventional techniques applied previously in research on oil and gas supplies in Canada and the United States. Briefly, these hinge on the idea that oil prices encourage exploration and discovery but, at the same time, new discoveries become harder as more oil is found. It should then be possible to find, from past data, what influence the price of oil and the amount already discovered have on new discoveries. Given this and estimates of the future price of oil, expected discoveries could then be estimated. The same ideas apply to natural gas. Unfortunately, this conventional analysis did not work out well, even with plausible modifications. Consequently, Jobin was led to a new approach.

Price increases

His idea was to apply a well-known concept in economics to the problem: the marginal cost curve. The idea behind it is that there is no such thing as a fixed quantity of potential oil discoveries. Instead, the amount of oil that is worth discovering is higher as the price of oil increases. This is because, at high prices, it becomes profitable to discover oil even if the discovery process is expensive. Past data give good but not perfect information on how much the cost of discovery rises as more oil is found, i.e., on what economists call the marginal cost curve. Using that information, together with expected price trends, Jobin was able to make rough estimates of how much oil it would be profitable to discover over the next two decades. The same method was applied to gas. Jobin made two estimates, each based on a different but plausible assumption about the appropriate allocation of exploration costs between oil and gas.

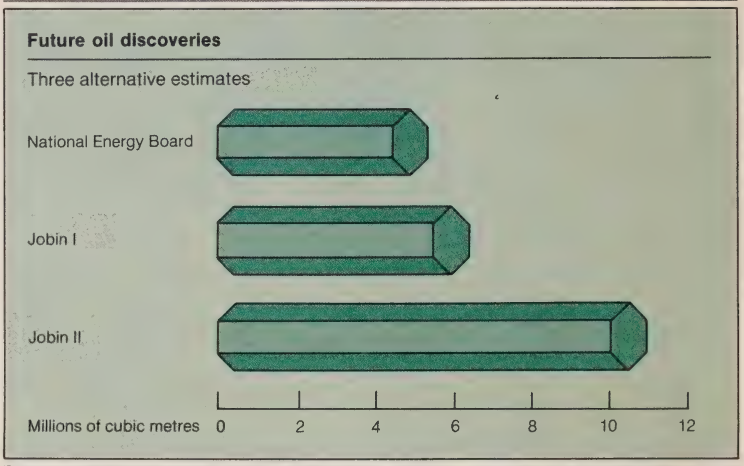
The first estimate showed 577 million cubic metres of oil and 67 exajoules of gas were as yet undiscovered. The second showed 1,027 million cubic metres of oil and 36 exajoules of gas.

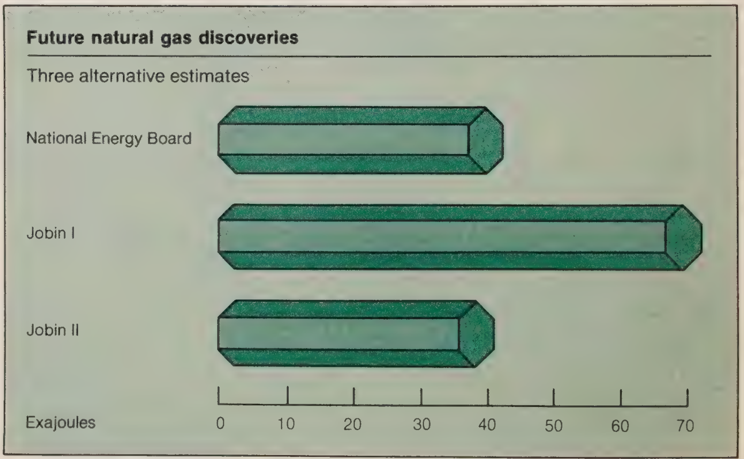
More oil and gas

For oil, both estimates were above the NEB's most optimistic forecast (446 million cubic metres). For gas, there was rough agreement on one estimate and a higher value on the other (the NEB's most optimistic forecast was 38 exajoules).

Whatever the exact amount for each resource, one thing is very clear: there is proportionately more natural gas than oil left to be discovered in Alberta. This is reflected in the dramatic increase in the cost of finding oil. In 1981, discovery of oil cost 30 times more (in constant dollars) than it did between 1947 and 1956. The cost of finding natural gas has also risen, but at a much slower and steadier rate. In 1981, natural gas discovery costs were only about six times higher (in constant dollars) than they were from 1947 to 1956.

"The Supply of Oil and Gas Discoveries in Alberta, 1947-1985," by Jacques Jobin. Discussion Paper No. 249.





Energy reserves:

prices over the period.

In 1965, more than 6 billion barrels of oil had been added to Alberta's reserve estimates ("booked"). Finding

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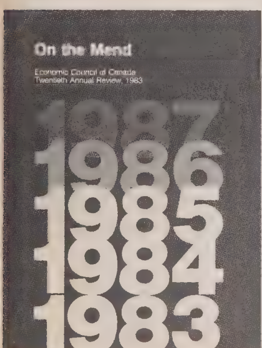

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In this report the Economic Council continues to focus on Canada's economic performance and its prospects for future growth.

Special issues examined this year include:

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- Women – their changing economic role
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Cat. No.: EC21-1-1983E Price: $5.95 ISBN: 0-660-911442-9

A major report on the future of technology and trade in Canada

The Bottom Line: Technology, Trade, and Income Growth

This major report examines the facts pertaining to the recent productivity slowdown and shows that technical advance and international trade represent promising areas for the investigation of ways to restore some growth in productivity and hence in living standards.

Part B of the report is devoted to the process of technical advance and contains a series of recommendations on how it can be speeded up. Part C examines how and why policy in the area of international trade might affect growth in productivity and real income, and reviews some of the structural and adjustment problems that might be involved. One important conclusion is that "the Canadian manufacturing sector has not withered, and is not withering, in the face of increasing international competition, and that Canada is a far cry from de-industrialization."

Cat. No.: EC22-113-1983E Price: $8.95 ISBN: 0-660-11354-6

Alberta's energy su

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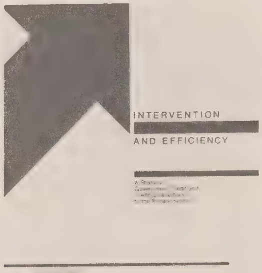

Intervention and Efficiency

A Study of Government Credit and Credit Guarantees to the Private Sector

Among the principal topics examined in this report are the nature and scope of government intervention and the objectives currently being pursued; the environment in which such intervention takes place, including the state of the financial markets; the impact that this government intervention has on financial and real resource allocation and on stabilization policies; and the technical efficiency with which financial assistance is delivered. Tables. Charts. Paperbound. 180 pages.

Cat. No.: EC22-111-1982E Price: $9.95
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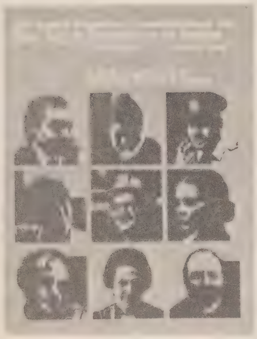

Job Search Behaviour, Unemployment, and Wage Gain in Canadian Labour Markets

This study focuses on determining the overall significance of the search phenomenon, by examining the following four questions. How extensive is search activity? Are individuals flexible in their asking wage over the duration of search activity? What are the determinants of the duration of search-unemployment? And is search time productive? Bibliography. Tables. Figures. Paperback. 71 pages.

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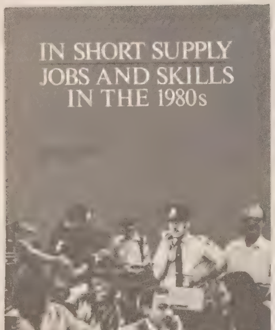

In Short Supply: Jobs and Skills in the 1980s

The major issues examined in this report include the extent to which unemployment is of the short-spell, turnover variety or, conversely, is a more deep-seated, long-lasting phenomenon; the identification of present and future shortages of skilled labour; the relationship between vocational training and labour market requirements; the role of information in the adjustment process; and the potential role of job-creation policies. Tables. Charts. Appendices. Paperback. 128 pages.

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ISBN: 0-660-11134-9

The Impact of Investment Incentives on Canada's Economic Growth

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Cat. No.: EC22-100-1982E Price: $6.95
ISBN: 0-660-11066-0

Canadian Productivity Growt Alternative (Input-Output) Analysis

The main purpose of this study is to present an alternative and relatively new approach to Canadian productivity growth analysis, base on input-output techniques, that is final-demand-oriented (or consumption-oriented) rather than industry-oriented (or production-oriented).

This empirical investigation is more extensive than other similar research, and it introduce some novel (experimental) aspects of analysi and interpretation.

The input-output approach to productivity analysis is applied to 40 Canadian industries These industries encompass the complete bu ness sector of the Canadian economy, and t analysis covers the time period 1961 to 1978 Appendices. Paperback. 96 pages.

Cat. No.: EC22-115-1983E Price: $6.95
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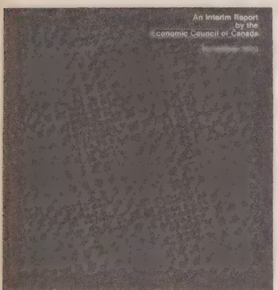
Responsible Regulation



Responsible Regulation

An in-depth analysis of the growth, scope, and economic impact of government regulations. This report defines the important issues, outlines possible alternatives for governments, and offers specific recommendations for action. Contents include: concerns about regulations (a view from the private sector); regulation and the complexity of federalism; accountability, policy-making and regulatory agencies; and improvements in governmental decisions concerning regulation. Appendices. Tables. Chapter Notes. 127 pages.

Cat. No.: EC22-70-1979 Price: $7.25
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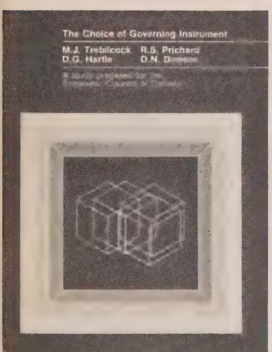

The Choice of Governing Instrument

This study deals with the perspectives of the principal actors in the decision-making process; the choice of governing instrument: the calculus of decision; public inquiries; taxation, expenditures, and debt management; public enterprise; and regulation. Tables. Figures. Bibliography. Paperbound. 113 pages.

Cat. No.: EC22-101-1982E Price: $8.95
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Financing Confederation: Today and Tomorrow

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Alberta's energy su—

there was rough agreement on one estimate and a higher value on the other (the NEB's most optimistic forecast was 38 exajoules).

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Energy reserves: finding and developing costs

Costs of finding and developing oil reserves in Alberta have accelerated dramatically over the past 25 years. The costs of finding and developing gas reserves have increased, but at a fairly steady pace.

That is the major finding of a paper written for the Economic Council's energy project (*Au Courant*, Vol. 3, No. 2) by economists Peter Eglington and Maris Uffelmann. Their analysis of costs is based on data compiled by the petroleum industry and the Alberta Energy Resources Conservation Board (AERCB). Their study is an attempt to estimate the real cost of proving up developed oil reserves separately from natural gas reserves.

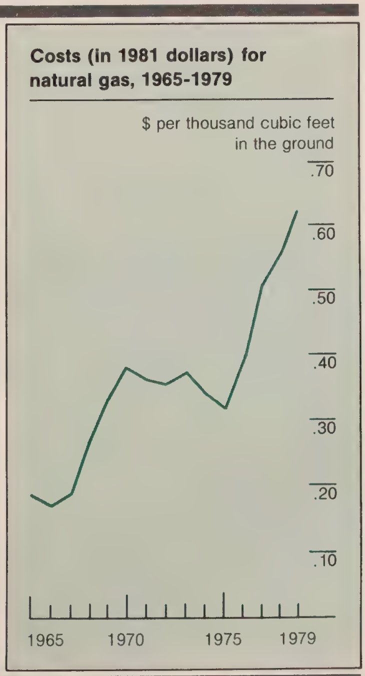
Higher costs

Costs contain two elements: finding and developing. Finding costs include expenditures on exploration drilling, geology, bonuses, and the money that is tied up in the process. Development costs include actual drilling and facilities to connect up the reserves. Eglington and Uffelmann take the total costs recorded, separate them into oil and natural gas, and then divide by how much of each was added to the annual reserve estimates of the AERCB. The final result is an estimate of the real cost of putting into place productive reserves of oil and natural gas in Alberta between 1957 and 1979.

They find that the costs of finding and developing both oil and gas had increased, but that the pace of increase for oil was much larger. The main factor was that finding costs, especially exploration drilling, rose faster than the other cost components related to oil. To eliminate simple inflationary effects from the analysis, the results were converted to 1981 dollars and compared with the estimated value of developed reserves. It was found that the finding and developing costs tracked the movement of reserves' prices over the period.

In 1965, more than 6 billion barrels of oil had been added to Alberta's reserve estimates ("booked"). Finding and exploration costs amounted to \$1.00 per barrel in the ground. By 1970, just under 9 billion barrels had been added to reserves, and the costs were between \$2.00 and \$3.00 per barrel in the ground. Since 1970, the cost of proving up the next one billion barrels has risen dramatically, to a range of \$7.00 to \$10.00 per barrel in the ground. That meant the finding and developing of new oil reserves was not a profitable venture in the late 1970s because of the controlled level of Canadian oil prices. Once operating costs, royalties, and taxes are subtracted from the wellhead price of oil, the return to the petroleum industry, at the present time, does not appear high enough to cover the average cost of proving up additional reserves by developing older and/or smaller pools of oil.

Finding and development costs of reserves



The outlook

Eglington and Uffelmann note that the tremendous increase in costs in the late 1970s is probably not a good gauge of estimating a trend for future costs. If exploration was unprofitable, then why did the industry continue to do it? The authors point out they are dealing with averages and that there will be successful companies which will indeed make profits. Secondly, the Canadian petroleum industry had been expecting a bigger return than was allowed under energy policy, which kept Canadian prices below world levels. And finally, because of the uncertainty in any exploration activity, most companies would continue to search for long periods of time even though the results were not profitable.

In the case of natural gas, finding and development costs also increased during the 1960s and 1970s, but at a more steady rate. Gas costs have risen from about 14 cents per million cubic feet in 1960 to about 62 cents per million cubic feet in 1979. There appears to be little or no evidence of any acceleration in gas costs as additional reserves are found.

"Observed Costs of Oil and Gas Reserves in Alberta 1957-1979," by Peter Eglington and Maris Uffelmann. Discussion Paper No. 235.

Multilateral free trade: a bonanza for manufacturing

Multilateral free trade would bring a larger-than-expected bonanza for Canadian workers and the overall economy, according to a recent study.

Based on 1976 data, Richard Harris of Queen's University estimates real wages would leap 25 per cent and real national income would climb a startling 12 to 15 per cent, well above previous calculations.

As well, average fixed costs would plunge almost 30 per cent and productivity would rise substantially. The length of production runs would increase by more than 66 per cent, increasing efficiency and lowering costs.

Manufacturing

Interestingly, the biggest benefits would flow to the manufacturing sector, although a handful of troubled industries such as clothing and knitting mills would wither away, Harris told an Economic Council seminar in Ottawa recently. Free trade critics often suggest the manufacturing sector would fade away if all trade barriers were dropped.

Regionally, free trade would have a greater influence in Ontario and Quebec than anywhere else because the biggest gains would be in manufacturing. The industrial heartland is in those provinces.

Traditionally, there has been more interest in free trade in the western provinces than in central Canada.

The Economic Council has long supported encouraging trade by lowering barriers. Most recently, the Council report *The Bottom Line* opposed any attempt to increase protectionism and urged renewed efforts internationally to reduce trade barriers.

Freer trade is also drawing increasing national attention with recent federal proposals for free trade with the United States in certain selected industries.

New model

Using 1976 statistics, Harris and David Cox of the University of Western Ontario have developed a new economic model to estimate the benefits and costs of free trade to the overall economy and to individual industries.

While the basic data is now seven years old, Harris says he is confident the same general trends would hold with more recent statistics.

Harris and Cox have created a general equilibrium model that includes such features of industrial organization as economies of scale, which do not appear in some conventional studies.

A general equilibrium model takes into account the interaction of different markets in the economy. For example, consumers have only so much money to spend and must choose between different wants and different products. Their choices will affect the industries they buy from and those they decide against. This gives the Harris study a more complete view of the economy than earlier partial equilibrium research.

There have been some trade studies using general equilibrium models in the past, but they have generally assumed that all industries are competitive and that unit costs remain constant as output expands. But this overlooks the uncompetitive nature of some protected industries in this country and the cost benefits of longer production runs.

By including these features of Canadian industrial organization in their study, Harris and Cox fill a significant gap.

After marrying the general equilibrium and industrial organization aspects, the two researchers have come up with much larger benefits from free trade than previously estimated.

Research using conventional, neoclassical trade models have concluded that the benefits of multilateral free trade are small – an increase in gross national product of no more than 2 per cent, based on assumptions that costs remain constant and that markets are perfectly competitive. However, the Harris and Cox model estimates growth at 7 per cent.

Economic growth

With trade walls removed, real wages would rise sharply, helped by longer production runs, more competition, and lower consumer prices.

Productivity – with labour, capital, and other factors included – would rise 9.5 per cent, a major increase. Increased productivity contributes to a rise in real income for Canadians.

Trade volume would jump a phenomenal 88.6 per cent as Canadian companies penetrated new markets abroad and foreign firms entered the Canadian market.

The benefits of free trade are naturally greater when Canada's trading partners also eliminate barriers, the study results show. But even if Canada wiped out trade barriers unilaterally, the study claims that this country would gain considerably through higher gross national product, higher wages, and lower average costs.

Winners and losers

Looking at the impact of multilateral free trade on individual industries, Harris and Cox determine that all but four of 29 industry groups would increase production. Output of the transportation equipment industry alone would increase by more than 120 per cent. The four losing industry groups would be leather, machinery, miscellaneous manufacturing, and furniture and fixtures.

Much of the clothing and knitting mills industries would eventually disappear under free trade, Harris said in an interview. These industries already rely considerably on protection to withstand foreign competition. They are labour intensive and have few economies of scale.

About 6 per cent of workers would have to move from one job to another, but the Harris and Cox model assumes they would ultimately find other work.

In fact, Harris says labour would be one of the biggest beneficiaries of free trade because real wages would soar. In any case, he says the adjustment problems would not be as severe as many people imagine.

Harris is now trying to pin down exactly the transition costs in moving towards free trade arrangements.

He acknowledges his model does not tackle the question of whether firms that have set up branch plants behind Canadian tariff walls would simply leave.

Productivity in the mining industry

High interest rates, shrinking export markets, and lower mineral yields provide some explanation for the dismal productivity performance of Canada's mining industry in recent years. But the productivity puzzle in that sector remains partly unsolved, says a new Economic Council discussion paper.

University of Waterloo economist Kenneth Stollery, in research carried out for the Council's investigation into growth and productivity, takes a close look at seven Canadian mining industries between 1957 and 1979. His chief concern in so doing is to discover why the productivity decline in mining has been one of the worst in Canadian industry – and one of the longest lasting as well, dating back to the 1960s. While the possible causes of this slowdown have been analysed extensively in earlier research, Stollery says, no satisfactory explanation has emerged.

Author's approach

To solve this mystery, the author first pinpoints various postwar trends across these industries – chiefly, the slowdown in major technical innovations after the 1960s, the decline in mineral yields, and the rapid substitution of capital and energy for labour. Then he uses an economic model to relate these trends to changes in industry costs and to calculate measures of productivity change during that period. Finally, he discusses the policy implications of his results.

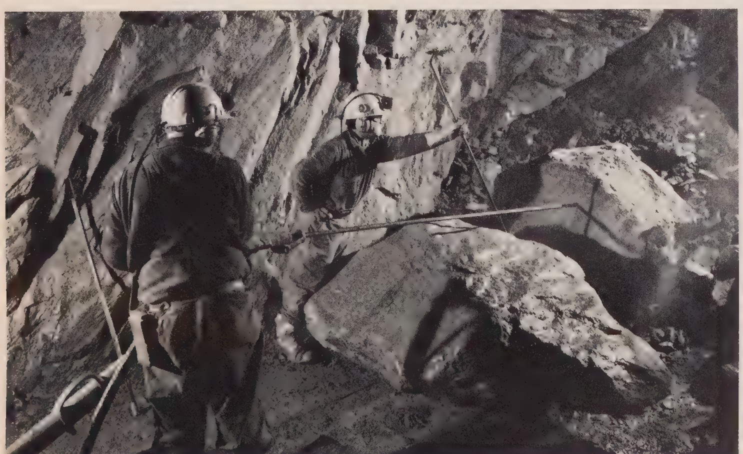
For purposes of his analysis, Stollery notes, he does not restrict his definition of productivity to that of "output per person or per labour hour" – which describes labour productivity alone – but rather uses the wider "multifactor" concept, encompassing all the inputs employed in production.

Author's results

Stollery's approach leads him to the following conclusions:

- Contrary to the popular notion that sharply higher energy prices in the 1970s were largely to blame for the productivity slowdown in this relatively energy-intensive sector, Stollery finds that in reality they accounted for only a small percentage of the decline.
- Wage increases weren't to blame either, according to the author. Because industry-wide technical advance proved to be capital-using and labour-saving, wage increases in fact indirectly increased productivity by stimulating the substitution of capital for labour.
- By the same token, increases in interest rates or in other capital costs inhibited productivity growth. "The implication of our result," Stollery says, "is that monetary policy has at least a greater short-term impact on the mining industry than energy policy has."
- The decline in mineral yields has had a significant impact in reducing productivity in some of the industries studied. In the copper industry, for example, average grade in 1971-79 was only 60 per cent of that in the 1957-65 period. In earlier years, Stollery notes, the effect of falling grades was offset in most industries by new cost-reducing technology. But it would appear that this type of major innovation has not been in evidence recently.
- The decline in output in certain industries during the 1970s probably has some bearing on the productivity slowdown too, the author says, although his model does not prove this conclusively. A good deal of the productivity growth in the late 1950s and early 1960s was associated with rapid increases in output in response to strong demand for minerals, he explains. Nowadays, however, export markets are contracting or growing more slowly, so that mines that expanded their scale of operations earlier are now operating well below capacity. Solving this particular problem won't be easy, he adds, since the key markets are export ones, highly dependent on economic growth in the United States and Europe, and facing growing competition from newer mining areas in Asia and Latin America. A step that might be considered, Stollery suggests, would be the promotion of the sort of market research normally conducted by Inco, for example, on new uses of nickel and stainless steels.
- Finally, the above findings account for some, but by no means all of the productivity decline. The sizable unexplained residual may be attributed to a number of causes, Stollery conjectures, one being an apparent slowdown in technical innovation. In this respect, there is evidence of an inadequate level of research and development in Canadian mining and mining supply industries, related to the small size of many mining and mining supply firms, and to the high degree of foreign control.

Further, health, safety, and environmental regulations introduced in mining in the early 1970s may have had some impact as well, by diverting capital from production towards pollution control. Unfortunately, little direct evidence is available on this point, the author concludes.


National Film Board
Miners at work

"Productivity Trends and Their Causes in the Canadian Mining Industry, 1957-1979," by Kenneth R. Stollery. Discussion Paper 248.

Trends in labour quality

The overall quality of the Canadian workforce dropped slightly in the mid-1970s, but this decline had little impact on the recent productivity slowdown, says economist Peter Chinloy.

Labour quality – influenced by age, sex, skills and education – fell a fraction of one per cent a year, on average, in the 1971-76 period, says Chinloy. This change chopped an even smaller slice off productivity, often defined as output per person employed. So the virtual halt in productivity growth over the last decade can't be traced to the skills, ability and experience of Canadian workers.

But this slump in quality does raise questions for policy makers and Chinloy, a University of British Columbia economist, offers some answers in a discussion paper prepared for the Economic Council of Canada. His study looks into the reasons for changes in labour quality in the 1970s as well as the effect on productivity.

One important reason for the dip in quality, says the author, was the large number of young people entering the labour force, lacking the experience of older workers. On the other hand, education levels rose, helping to offset some of the decline. Post-secondary education was particularly important. Among occupational groups, managers and scientists contributed most to productivity growth.

The Chinloy paper is a contribution to a Council project on growth and productivity. Productivity has flattened out since 1973, and that has an impact on economic growth and rising living standards. Labour quality is closely tied to productivity but is difficult to measure.

Job shifts charted

Chinloy uses Statistics Canada material on employment, earnings and hours to document shifts in employment between industries and regions in the 1961-79 period. Based on these figures, he estimates changes in labour input, a factor in productivity growth. Then, taking census data from 1971 and 1976, he sets out to determine the effect of sex, age, and education on labour quality.

There are some pitfalls that the author frankly acknowledges. Much of the work on labour quality depends on wages accurately reflecting worker skills and abilities. But if, for example, there is discrimination against women and young people, this may not be entirely true.

Chinloy concludes that, overall, employment increased at an average annual rate of 5.59 per cent between 1971 and 1976 while labour quality fell by .24 per cent a year, leaving labour input at 5.35 per cent. "These results confirm that personal and demographic characteristics continue to contribute negatively to labour input growth in Canada," Chinloy says.

Looking more closely at the reasons for the labour quality change, the author notes that women accounted for a growing share of employment in the 1970s. The overall effect is a reduction in labour quality, says Chinloy, but that is because wages are supposed to reflect skills and productivity. That may not be true in all cases, especially if there is discrimination or if many women are in non-union jobs.

The expanding bulge of young Canadians in the workforce also had a negative impact. "Hiring one more teenager reduces average labour quality in Canada, since such a worker is paid less than the average employed person," he says. But, again, discrimination or market forces may mean that the young person is getting less than he is actually worth.

Schooling improves quality

The managerial and scientific occupations contributed positively to growth in labour quality while others – recreational, clerical, sales, service, farming, processing and transport – did not. So if employment in the skilled occupations grows faster than in other jobs, it should lead to higher productivity.

Education also helped raise the overall level of skills and abilities of Canadian workers in the 1970s. The number of Canadians with an undergraduate degree or diploma more than doubled between 1971 and 1976. The total effect of schooling was small – an increase of slightly more than .2 per cent a year. The bulk of this increase was due to post-secondary education, particularly universities.

Even though education has helped boost labour quality in Canada, the overall contribution seems to be waning and it is less than in the United States, says Chinloy. If government planners are handing out funds based on U.S. labour quality figures, he adds, they may be investing too much. Undergraduate university education also seems to make a greater contribution than post-graduate training, suggesting too much may be spent on graduate schooling.

Chinloy says his study makes no attempt to evaluate government programs or the advantages and disadvantages of government intervention. Yet labour quality research does cast light on certain programs, he says. Employment training is one example. In negotiations with the provinces, the federal government has proposed that some funds be switched from post-secondary institutions to training. The benefits of the policy will be greater if, in fact, formal schooling is contributing less to labour quality growth.

The federal government spends a lot of money on post-secondary education, but benefits are hard to establish. By measuring the contribution of education to productivity, labour quality research can estimate the most efficient allocation of funds between elementary, secondary, and post-secondary schools, says Chinloy.

"Labour Quality Change in Canada," by Peter Chinloy. Discussion Paper No. 231.

National Film Board

Workers in assembly plant

The outlook for Alberta revisited

Economic growth in Alberta will be close to the national average for the rest of this century. The province's "boom" years are unlikely to be repeated even if major energy discoveries and development take place.

Council economist Thomas Schweitzer has prepared a sequel to a paper dealing with future economic prospects in Alberta (*Au Courant*, Vol. 3, No. 4). His new work simulates alternative scenarios about those prospects. Most notably, he looks at what would happen if a much more optimistic energy scenario than that used in the previous paper were assumed.

Under this more optimistic scenario, economic growth in Alberta would improve over the base case to between 2.7 and 3.0 per cent a year. This would be at or slightly above the expected growth for the rest of Canada. The base case projection (same as in the previous paper) showed oil production dropping by 50 per cent over the next two decades and gas production peaking in the late 1980s at some 37 per cent above the 1980 level, then dropping to 13 per cent below the 1980 level by 2000. Economic growth in the province would range from 1.4 to 2.0 per cent.

Energy prospects

The optimistic energy scenario assumes substantial new discoveries of oil and natural gas, the building of two additional oil sands plants, increased gas exports, and a 50 per cent increase in production at the Syncrude oil sands plant. Oil production would drop 10 per cent by 2000 and gas production would peak in 1991 at 55 per cent above the 1980 level and then stay there until the end of the century. While this scenario would lead to considerable economic growth, Schweitzer finds that it would not be as great as the extraordinary pace of economic growth enjoyed by the province between 1961 and 1979.

Manufacturing

Schweitzer examines what would happen if Alberta used 30 per cent of the Heritage Fund to promote manufacturing through an "across the board" subsidization. He determines that the stimulus to economic growth would be less than one-tenth of one per cent a year.

Wage impact

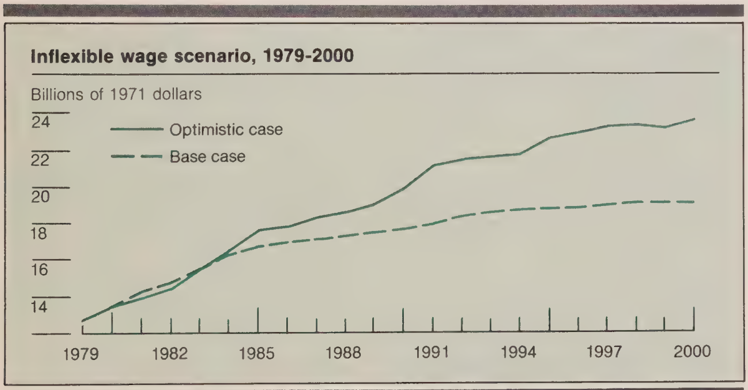
He finds that wage behaviour is critically important. If wage increases moderate a lot in response to high unemployment, wages are called "flexible." If increases moderate only a little, wages are called "inflexible." Flexible and inflexible wages produce very different results. The base case assumes inflexible wages. If wages are flexible, it will mean significantly lower unemployment rates in the years ahead, but at the cost of lower income per capita, less migration, and lower economic growth. Schweitzer says past data are inadequate for deciding whether wages in the future in Alberta will be flexible or inflexible.

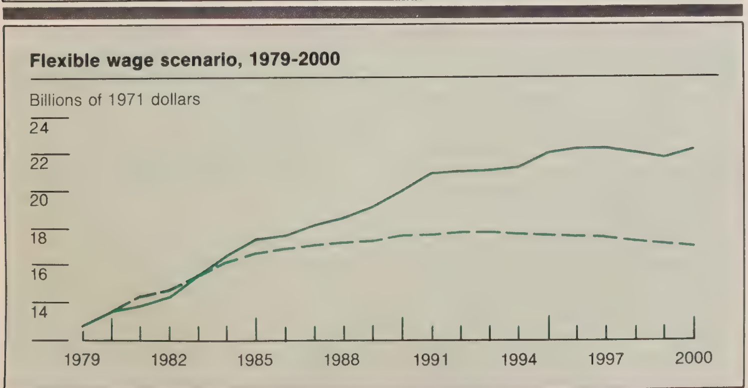
Migration

A similar problem, of not being able to decide exactly which kind of behaviour will apply in the future, arises with respect to migration. The previous paper supposes the differences in income and fiscal benefits are a better explanation of movement than differences in income and unemployment rates, but past data give either hypothesis good support. Had unemployment been used in the explanation (a scenario investigated in this paper), the future would hold slightly lower unemployment rates in Alberta but also less migration.

Schweitzer tests to see what higher or lower world energy prices will do to his model. He finds that only a major upward or downward change will have an impact. Shifts of 1 to 2 per cent per annum will have a minimal impact on the provincial economy.

Real provincial product in Alberta





"The Alberta Economy 1980-2000: Theme and Variations," by Thomas Schweitzer. Discussion Paper No. 246.

S·P·E·A·K·I·N·G · O·U·T

Canadians ride in Crown-owned planes or trains, listen to programs broadcast by the publicly owned network, and light their homes with electricity from government-owned corporations.

But there is a lot people don't know about government enterprises. How well are they fulfilling their assigned tasks? Are they the best answer to problems governments want to solve?

The Economic Council has just launched a study of federal and provincial government enterprises to answer questions like these. The project is expected to be completed in about two years.

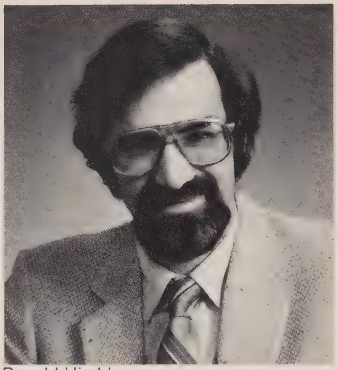
To find out more about the study, *Au Courant* recently interviewed Ronald Hirshhorn, director of the government enterprise project.

***Au Courant:** Why is the Council undertaking a study of government enterprises?*

Hirshhorn: The activities of public corporations have been the subject of considerable concern and debate. The recent report of the Auditor General, the record losses of Canadair, and federal proposals aimed at controlling growing provincial holdings in the transport sector have focused attention on some of the important issues in the area. It's our view that, notwithstanding the considerable attention that's being given to public corporations, there are important gaps in our understanding of these entities. Economists have indeed devoted relatively little thought to the role and activities of public corporations in Canada. We think that we can make a contribution to filling this gap.

***Au Courant:** What are the objectives of the study?*

Hirshhorn: A major focus of this study will be on two central questions. What is the appropriate role to be played by government enterprises in Canada? In other words, given the range of instruments the government has at its disposal, how


Ronald Hirshhorn

does government enterprise fit into the scheme of things? Under what conditions and for what sorts of problems is government enterprise the correct form of response? A second question we want to look at is how things can be improved. How can the legal and institutional framework we have in place be modified so as to make government enterprise a more desirable policy instrument?

***Au Courant:** Can you give some examples of what you're thinking of in this respect? What kind of instruments are at the disposal of government?*

Hirshhorn: There are a variety of avenues by which governments attempt to influence behaviour in the market – to encourage activities that are seen to be socially desirable and discourage activities that are undesirable. Government ownership – full or partial – is among several alternatives. The others include regulation, taxation, subsidization, and even exhortation. The government may influence the industrial environment through trade and competition policy. It may also exert direct pressure through its role as a major employer and its position as a major purchaser of goods and services.

***Au Courant:** When you mention the legal and institutional framework, what are you talking about?*

Hirshhorn: Essentially, what we want to look at is the framework of incentives under which government corporations operate. How have the institutional structures that exist and the formal and informal controls governments have put in place affected performance? This will involve an examination of such things as whether relevant measures of corporate performance exist, whether the controls on capital spending are appropriate, and whether the nature of management rewards and penalties are optimal. We will also want to look at what sort of changes can be made to make the corporations more efficient in economic terms and more effective in fulfilling their social obligations.

***Au Courant:** How are you organizing the research to carry out this study?*

Hirshhorn: We've broken the research down into three types of studies: background studies, which are intended to provide basic information about public corporations in general and about Canadian public corporations in particular; enterprise studies, which will involve detailed case studies; and what we call framework studies, which will examine some common issues that arise in connection with the legal and institutional framework.

***Au Courant:** I'm not sure whether you're able at this point to name the corporations you will be studying, but can you give an indication of what areas you will be looking at?*

Hirshhorn: In the studies, we want to look at a number of different areas. We want to cover some of the most important corporations and those which are in some way indicative of important aspects of public enterprise behaviour. Certainly, the electric utilities stand out – the assets of the provincial utilities exceed the assets of all federal public corporations combined – and we will want to examine them. Telecommunications is very important,

> **"Many of the most important corporations emerged in the course of the government's attempts to respond to specific problems".**

as is transport. Growing areas of importance are the mining, petroleum, and oil and gas sectors. There are other areas which are interesting because they're examples of the use of government enterprise to solve particular types of problems. Government has gotten involved in some important manufacturing enterprises to bail out private firms. In other cases, the government participation resulted because the private sector was unwilling to underwrite certain types of risks. We want, to some extent at least, to touch on all these different aspects of public enterprise activity.

***Au Courant:** What do you have in mind as far as framework research studies are concerned?*

Hirshhorn: Here we will undertake analytical and prescriptive studies focusing on a number of important common problems. For example, how do you monitor management performance in public firms given the absence of many of the usual indicators of performance that exist for private firms? What sort of adjustments are required to account for the fact that public corporations are often required to undertake activities with no commercial justification? What type of financing arrangements are appropriate for public corporations? Are controls on the growth of public enterprise desirable, and if so, what sort of controls? Answers to these types of questions are important if we are to develop an improved framework of incentives and controls for public corporations.

***Au Courant:** Has there been some coherent approach to developing Crown corporations at the federal and provincial levels?*

Hirshhorn: Many of the most important corporations emerged in the course of the government's attempts to respond to specific problems. For example, CN came about when three railways then in existence were facing bankruptcy and the government intervened to protect its own investment and also to protect Canada's credit standing in foreign capital markets. The Cape Breton Development Corporation was established because Dominion Steel and Coal Corporation was closing its coal operations and the already weak Cape Breton economy was facing increased unemployment and distress. Many of the provincial governments established resource companies to overcome the constraints they faced with respect to the control of natural resources and their ability to obtain increased resource revenue. That's not to say that political and ideological factors have been irrelevant. But it certainly does seem that the force of events has been important in explaining the growth of government enterprise in this country.

> **"Data available suggest that since the mid-1960s the government enterprise sector has grown somewhat faster than other sectors of the economy."**

***Au Courant:** Do these enterprises make a significant contribution to government debt?*

Hirshhorn: We do have some preliminary figures on the borrowings of some of the most important federal government corporations. What we've done is taken the fourteen largest borrowers – this includes Canada Mortgage and Housing Corporation, Export Development Corporation, CN, Petro-Canada, the Wheat Board, and Canadair. Government investment in these corporations in the form of debt and equity and the private sector borrowings of these corporations, which are, for the most part, guaranteed by the government, came to $37 billion in 1982. This accounted for over 35 per cent of all federal government long-term debt in that year.

***Au Courant:** Is there any way that you can tell whether their importance economically is growing or not?*

Hirshhorn: Data available from Statistics Canada suggest that since the mid-1960s the government enterprise sector has grown somewhat faster than other sectors of the economy. The strongest growth has occurred at the provincial level.

***Au Courant:** Are there obvious cases where government enterprises fill a need that no one else could fill? And vice versa, are there cases where they are doing something that private enterprise could do just as well?*

Hirshhorn: In the case of some of the enterprises, there was a clear need which wasn't being filled by the private sector at the time they were established. It is now conceivable that, in certain areas, where there exist alternative systems, one could legitimately ask whether there continues to be a need for government enterprise in such areas, and that's quite a different question. To answer the second part of your question, we should probably start by making clear that, in general, there are important differences between public and private enterprises. Public enterprises have commercial responsibilities, but they're also involved in noncommercial activities related to the achievement of broader policy objectives. In some cases, this distinction gets blurred. In the case of some public corporations, their social responsibilities are either very insignificant or it may be the firm is compensated in much the same way as a private firm would be compensated if it were required to undertake certain social functions.

***Au Courant:** What general philosophy does the Council have in approaching this task?*

Hirshhorn: What is of major importance to us is whether government corporations are effectively fulfilling the roles assigned to them and whether the corresponding costs are reasonable. In other words, is government enterprise appropriate in various circumstances, or are there better ways to pursue some public policy objectives?

WORKING TO IMPROVE CANADA'S POLICY PERFORMANCE

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We are an independent advisory body seeking to improve Canada's economic performance, not through policy making but through the following important roles:

Consultation

The Council consists of economists, specialists, and citizens from a variety of disciplines, activities, regions, and socio-economic groups. Together, we consult and advise – interacting with various governments and groups, studying, analysing, and making recommendations on significant Canadian economic issues and policies.

Research

Our staff of experts, assisted by technical and support services, provides original research and background information on many specific topics, focusing mainly on the medium- and longer-term problems of the Canadian economy.

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The Council also endeavours to educate and inform the Canadian public with respect to economic problems and possible solutions by making its findings and recommendations known to the media and to the individuals and groups involved in discussions of public policy.

Whether the issues we address are as regional as the development of Western Canada or as national in scope as the problems that face women in the marketplace, the Council continually seeks to improve economic policy and its impact on Canadians.

Economic Council of Canada

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Economic Council of Canada

Volume 4, No. 4, 1984

Francophone earnings catch up

Economist looks at marriage

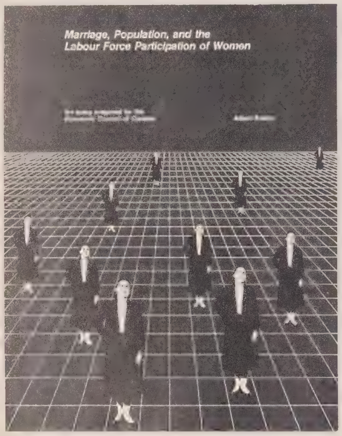
More on Newfoundland

Pollution affects brewing industry

PUBLICATIONS

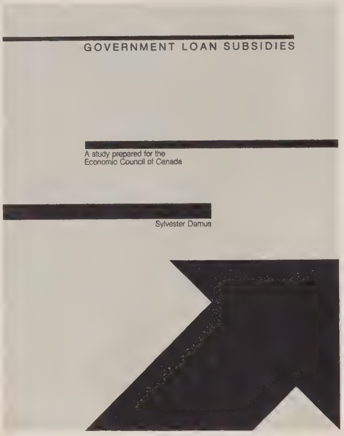
Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). Two new titles have been published since the last issue of *Au Courant*:



Marriage, Population, and the Labour Force Participation of Women, by. A. Breton (EC22-117/1984E; $4.95 in Canada, $5.95 elsewhere).

This study takes a new slant on the issue of women's special difficulties in the job market. Economist Albert Breton says the basic characteristics of marriage itself are at the root of women's problems in that area. There will be no real change in the situation until a more modern form of marriage takes firm hold on society.



Government Loan Subsidies, by S. Damus (EC22-116/1984E; $5.95 in Canada, $7.15 elsewhere).

This study analyses the economic impact of the proliferation of government loan subsidies to business people, farmers, exporters and prospective homeowners. These loans have something of a negative effect on Canadian wellbeing, says the Council economist, and their replacement by special subsidies would raise living standards.

Reprints

The following Council report has been reprinted, and can be ordered according to information below:

On the Mend (EC21-1/1983E; $5.95 in Canada, and $7.15 elsewhere).

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No. 250 "Apprenticeship Training in Canada: A Theoretical and Empirical Analysis," *by K. Weiermair*

No. 251 "Costs and Supply of Natural Gas from Alberta: An Empirical Analysis," by *P. G. Bradley*

How to order

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Discussion papers and *Au Courant* are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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au courant

Volume 4, No. 4 1984

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Specializing boosts productivity in Canadian manufacturing

Tariff reductions and changing trade patterns during the 1970s helped Canadian manufacturing industries become more specialized.

Economists John R. Baldwin of Queen's University and Paul K. Gorecki of the Economic Council (with J. McVey and J. Crysdale of Statistics Canada) have prepared another paper in a series on productivity problems in the Canadian manufacturing sector (*Au Courant*, Vol. 3, No. 4; Vol. 4, Nos. 2 & 3). Each study has addressed different factors affecting productivity in Canada. This latest paper assesses the impact of trade and tariff changes in the 1970s on product diversity and length of production runs.

Plant scale

Canada's scale and specialization problems (plants that are too small and production runs that are too short) are often seen as important factors accounting for Canada's lagging productivity, compared with the U.S.

Much previous research has concentrated on plant scale as a major factor in the problems affecting manufacturing. This is explained, in part, by a lack of data on product diversity and length of production runs. However, the authors, through a special arrangement with Statistics Canada, had access to confidential data on product diversity, measured at the commodity level, based on actual "census plant" data. Under the arrangement, the confidentiality provisions of *The Statistics Act* were respected.

Specialization

The authors find Canadian manufacturing industries became more specialized (produced fewer diverse products) between 1970 and 1979. At the same time, the length of production runs increased. As plant size increased, firms concentrated on their existing product lines.

The authors go a step further in their study of diversity at the plant level by considering the country of control of the plant: Canadian, U.S. or other foreign-owned.

In the early 1970s, Canadian-owned plants were more specialized than plants of similar size in the U.S. This finding is in keeping with previous research. However, by 1979, the difference was far less pronounced.

The results are different, however, when plant size *and* the maximum number of commodities that could be produced in a given industry are taken into consideration. In almost all cases, U.S.-owned plants are then found to be more specialized than Canadian ones. Therefore, on the basis of this evidence alone, foreign ownership cannot be said to deter Canadian companies from becoming more specialized.

Keys to change

Several variables are examined for the importance in determining product diversity and length of production runs. Particular attention is paid to the influence of trade and tariffs.

Trade barriers are thought to have the greatest impact in highly concentrated industries which are protected by high tariffs. The authors find shorter production runs and greater diversity in these industries than elsewhere in the manufacturing sector.

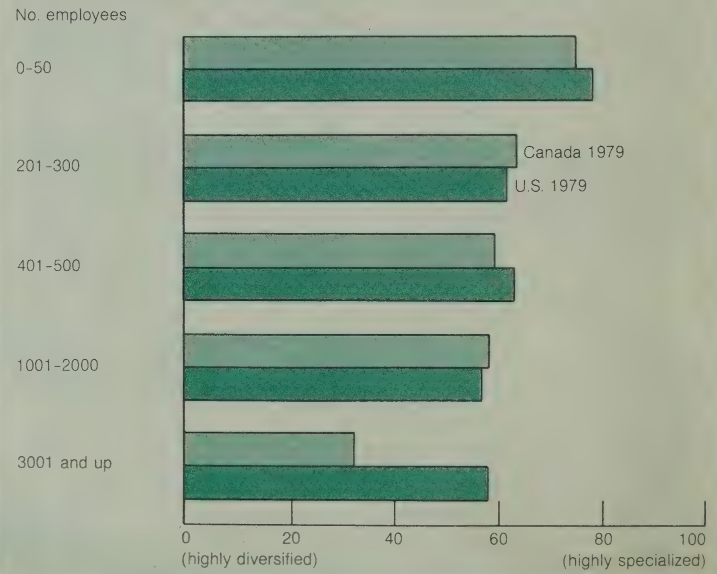
Exports and imports usually resulted in longer production runs and less product diversity, but only in the early 1970s was this impact significant. As the decade went on, production runs lengthened – as tariffs fell.

Implications

The authors conclude that the impact of foreign ownership in the areas mentioned above was minimal. The evidence suggests that lowering trade and tariff barriers would be more effective in improving productivity than reducing or confining foreign ownership in Canada.

"Trade, Tariffs, Product Diversity and Length of Production Runs in Canadian Manufacturing Industries: 1970-1979," by John R. Baldwin and Paul K. Gorecki with J. McVey and J. Crysdale. Discussion Paper No. 247.

How plant size affects product diversity



Marriage hinders women in job market

Those few short steps to the altar may have cost women giant strides in their march towards equality in the labour market.

A recent study, written as part of a modest Economic Council research program on the role of women in the economy, claims that the basic characteristics of marriage itself have prevented working women from doing as well as their male colleagues. That situation may be changing, though, with the emergence of a new kind of marriage structure, says the author, University of Toronto economist Albert Breton.

One method of determining why women have been at a disadvantage in the labour market – as indicated by their lower earnings, different occupation and training levels, and so on – is to resolve whether that situation is the outcome of "natural" forces, or the product of what economists call "market failure" (a breakdown in the functioning of an aspect of economic activity). So Breton selects the marriage market as the focus of his economic analysis, and designs a model to see whether failure there "would be of a type that could explain the differences in economic status between women and men."

He takes the view that the marriage market has indeed failed, most notably in terms of its structure or basic organizational features. That breakdown, he contends, plays a key role in creating differences between men and women with regard to the amount of schooling acquired, type of subject studied, choice of occupation, and hence, subsequent experience in the labour force.

Men and women enter the marriage market, search for mates and establish families, Breton says, in the expectation of receiving certain benefits or services in return – primarily, in his view, sex, children and security, although the list could be longer. The basic constraints of the prevailing market will affect how these benefits are divided between the partners. Until very recently "technological and institutional constraints" (such as inadequate birth control) have meant that the typical marriage contract did not favour women who, the author argues, have different preferences from their spouses with regard to such concerns as security, sex, and the number, timing and spacing of children. Further, the nature of that contract has adversely affected their "preparation for, mode of and rewards from labour market participation."

The "old-fashioned" market

The first marriage market to emerge historically, which Breton labels the "old-fashioned" market, was one organized entirely by parents, who married off their children mainly to safeguard their own security. Offspring were raised to become attractive, salable mates in keeping with prevailing custom and attitudes. Hence, males were required to exhibit such virtues as courage, strength and cunning, whereas females were expected to be good household managers and childbearers. As long as this market dominated, inequality between the sexes was inevitable.


Andrews-Newton

The "traditional" market

As security became available from sources other than marriage, the old-fashioned market was replaced by what Breton calls the "traditional" one, wherein men search for mates who can accept or reject offers, but not initiate them. With this kind of marriage structure, Breton says, women make a heavy investment in areas such as schooling, training, and health. Divorce costs are high (so that men can avoid the expense of a second marriage search), the nuclear family predominates, birth control is inadequate, and by and large, women are housewives who spend most of their time raising children.

The "modern" market

The development of more efficient contraception, allowing women to control family size to suit themselves, has made possible the tentative emergence of a new modern market in recent years – although, Breton cautions, it does not yet predominate over the traditional form. The distinguishing feature of this market is the equality of the sexes: both men and women can make or reject marriage offers at will. The major impact this new arrangement has upon women, says the author, is to make their investment in the acquisition of job-related skills more worthwhile, thus allowing them to function in the work force on the same basis and terms as men.

Certain aspects of the modern welfare state are hindering the development of this new market, Breton contends. He points to maternity leave as a good example on two counts: firstly, by raising the cost of employing women, it lowers the demand for their labour; and secondly, by lowering the cost of childbearing, it encourages women to have more children. Instead, Breton suggests providing part-time job opportunities to men as well – enabling them to help out at home – and instituting paternity leave, so that parents can make their own child-care arrangements. In the short-term, though, he stresses, adequate daycare is essential. He concludes that it is the responsibility of the state to subsidize policies of this nature in order to promote the emergence of the modern marriage market.

Marriage, Population, and the Labour Force Participation of Women, by Albert Breton (EC22-117/1984; $4.95 in Canada, $5.95 elsewhere).

Measuring productivity: a new approach

The idea of what productivity measurement is all about is undergoing a change. The traditional approach is based on output per person-hour. Those investigating this approach claim that it is misleading and may conceal the true picture by failing to take into account factors (inputs) other than labour which influence output. Changes in labour productivity not only reflect improvements in technology, but also could represent the substitution of other inputs for labour in response to changing market conditions.

Total factor productivity (TFP) is gaining acceptance as a more valid measurement of productivity growth. It is based on more than output per person-hour, and measures the productivity of all inputs taken together: capital, labour, materials and energy.

Council economists P. S. Rao and R. S. Preston have researched this subject and have written a paper which first determines the interrelationship between input substitutions and TFP at the level of individual industries. These sectoral results are then averaged in order to give the overall picture.

Total factor productivity

TFP measures the efficiency of all four inputs taken together (labour, capital, materials and energy). By adding a production function (which accounts for returns to scale, and the substitutability and complementarity of inputs in production technology and technical progress), a more comprehensive analytical framework can be constructed. A cost function (prices) is a mirror image of a production function (output), yields the same results, and is more analytically appealing since it assumes that changes in input prices result more from noneconomic causes.

Substitution of factors

The authors use cost function in TFP to explore the extent of substitution among the four factors and the movement of TFP at the industry level for the Canadian economy. Their purpose is to find an explanation for the dramatic decline in productivity growth since the oil price shocks of the early 1970s.

In Canada, the rate increase in total output per person-hour declined from an annual average rate of 3.40 per cent between 1967 and 1973 to 1.05 per cent between 1974 and 1979. As measured by TFP, the decline was more dramatic: the increase in output fell from an average annual rate of 2.23 per cent during the 1967-73 period to –0.03 per cent from 1974 to 1979, implying that about 95 per cent of the slowdown in labour productivity is caused by the slowdown in TFP, while the remaining 5 per cent can be attributed to a reduction in the growth rate of the capital-to-labour ratio.

The drop in total output and increases in energy and raw material prices, traced through TFP, are found to be the main reasons for the decline in the rate of output growth per person-hour. The authors find that 15 per cent of the productivity slowdown since 1973 was due to a shift of labour, capital and materials away from goods-producing industries – that is, from high-productivity to low-productivity sectors.

Returns to scale, contrary to the popular view, are found to be constant or slightly diminishing in the manufacturing industries. If demand collapses (as during a recession), the degree of scale economies will decline.

Energy and raw material prices are found to have a definite impact on technological progress, indicating such progress depends heavily on use of energy and material. The implication is that the dramatic increases in energy and raw material prices since 1973 have slowed down technical advance in almost every industry.

From goods to services

If the move from the goods to service industries results from market distortions, the authors believe that tax changes, deregulation, subsidies and other regional, industrial and trade policies would help overcome them. If, on the other hand, the shift is the result of changing individual tastes or demographic changes, the remedies are less clear, although fiscal and monetary policy might have some effect.

There are unlikely to be any real improvements in TFP if capital and other resources continue to move to low-productivity sectors.

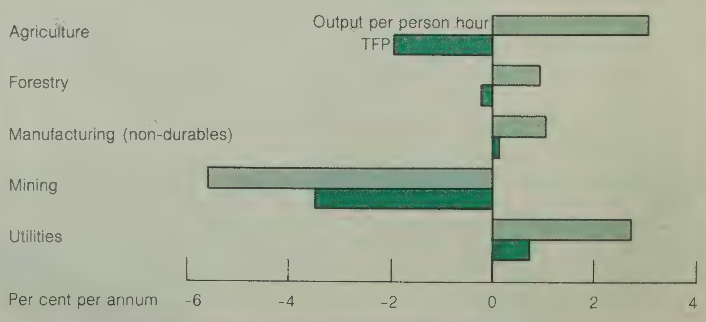
Implications

The results suggest there is a fair degree of substitutability among labour, capital, materials, and energy in the production process and that the post-1973 productivity slowdown in Canada can be attributed to two closely interrelated developments – increasing energy and raw material prices and depressed output conditions.

The authors conclude that the outlook for productivity growth is not very bright unless trends in total demand and inflation are reversed.

"Inter-factor Substitution and Total Factor Productivity Growth: Evidence from Canadian Industries," by P. S. Rao and R. S. Preston. Discussion Paper No. 242.

Productivity growth by industry using two measurements, 1974-1980



Governments should keep lower profile in housing

Federal and provincial governments have been involved extensively in housing finance in Canada. Some questions about the effectiveness of such assistance are raised in two papers written for the Economic Council's report on government loans and loan guarantees (*Au Courant*, Vol. 3, No. 3) by economist George Fallis. He looks at the extent of government involvement in the residential mortgage and housing markets, assesses its impact using a theoretical model, and then makes recommendations concerning the government's role.

Fallis says past and present housing programs have often provided the wrong kind of help to the wrong people, and he recommends that government take on a more limited role in residential mortgage markets.

Federal housing policies

Federal housing assistance has gone through three periods. From 1954 to 1964, the emphasis was on construction of single-family, detached homes.

From 1965 to 1977, the emphasis was put on social housing, and the government used housing policy as a means of redistributing incomes.

The final period, from 1978 to the present, has been one of significant restraint.

Nevertheless, throughout these stages, a couple of themes have remained constant: providing affordable housing through a combination of loans and/or grants and providing insurance on mortgage loans.

Provincial programs

Provincial involvement in housing started later but has picked up steam, with the provinces now bearing responsibility for a large part of housing programs, although many projects are still joint ventures with the federal government. As the chart shows, some provinces – Alberta and Saskatchewan in particular – have been more successful than others in launching independent programs.

Originally, the provinces were concerned almost entirely with land regulation and servicing. However, since the mid-1960s, the provinces have taken the initiative on home ownership plans, renovation assistance, and help for special groups, small communities and rural areas. The provinces have also used rent controls as part of housing policy.

Results

The author's research reveals that governments believe in adequate, affordable housing as a right, and that they are functioning on the assumption that more housing (and housing assistance) is better housing (and assistance). There are some researchers who believe the government's involvement in residential mortgage markets has created too large a stock of housing in Canada and that housing programs often have not helped those who need it most.

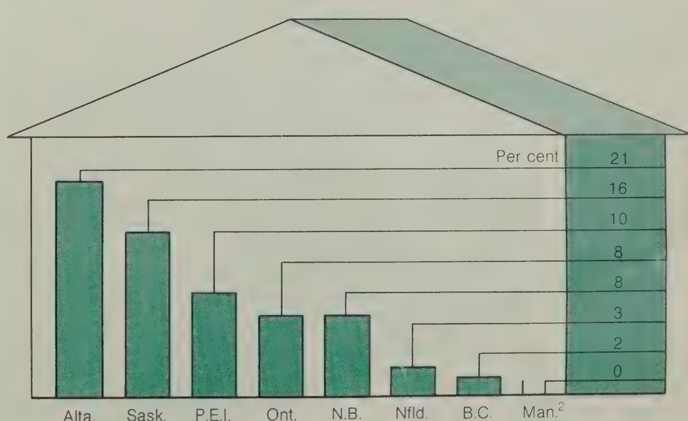
By comparing stated objectives of housing policies with those of his theoretical model, Fallis finds that mortgage involvement and housing assistance are not good ways to redistribute income, even out fluctuations in the construction of housing, or influence consumption. That means, in the long run, such policies are highly unlikely to result in any reduction in the average cost of housing.

The conclusion reached is that some government presence is called for, albeit limited to specific circumstances, and that government should not act as a major financial intermediary. Public mortgage insurance should be continued (or public reinsurance should be instituted), but the structure of premiums should be changed so that costs of operations and claims are adequately covered. Public mortgage lending is warranted when there are unserviced borrowers because some private financial institutions underinvest in high-risk mortgage loans or have incorrect information on the credit worthiness of some people. Fallis suggests further study in this area. He also concludes that shelter allowances and renovation assistance are better ways of increasing consumption and that, if income redistribution is a priority, direct cash payments are likely more efficient and effective.

"Governments and the Residential Mortgage Market I: A Normative Analysis," Discussion Paper No. 239 and "Governments and the Residential Mortgage Market II: Programs and Evaluation," Discussion Paper No. 240, by George Fallis.

How provincial housing programs stack up

Provincially assisted housing starts as a percentage of total starts in each province, 1971-81[1]



1 Data unavailable for Quebec and Nova Scotia

2 Manitoba average = 0

New look at corporate taxation

Recent developments in the field of corporate taxation should make taxpayers sit up and take notice.

According to one American tax expert, companies are shifting as much of their tax burden as possible onto the shoulders of their employees; and according to another, corporate income tax in the United States is having a negative economic impact out of all proportion to the dwindling revenues it now provides the federal government.

These views were expressed at two recent seminars on corporate income tax held at the Economic Council. At the first, Arnold Harberger, professor of economics at the University of Chicago, took a fresh look at "the incidence of the corporation income tax in an open economy," and presented his theory on how corporations resolve their tax burden.

A new theory

Put very simply, Harberger's theory holds that manufacturing industries and privately owned utilities, in an inevitable attempt to pass on corporate income tax, have recourse to one of three options. Firstly, they can raise prices, thereby passing the buck forward to the consumer. But that has its limitations, since industries have to keep their prices competitive in order to survive in both export and domestic markets.

Secondly, they can attempt to shift the tax burden backward so that it falls on the capital of lenders and shareholders. But that approach is generally ineffective as well, since capital is mobile and in adverse conditions can leave the country.

Finally, industries can pass the tax burden over to labour, by paying lower wages – and this is the most likely choice, Harberger said. Further, he concluded, since the labour market is roughly competitive, wage reductions in manufacturing industries that use the corporate form of organization ultimately spread to other largely unincorporated economic sectors.

Another look at the tax

A second Council seminar featured Professor Alan Auerbach of the University of Pennsylvania and the National Bureau of Economic Research, who also discussed some recent findings in the corporate tax field. He pointed out that the share of U.S. federal revenues derived from corporation income tax has been falling steadily over the past three decades – unlike personal income tax, which has remained remarkably stable in proportion to total tax revenues (see chart).

As a consequence of that decline, "the corporate tax will provide revenue in 1983 equal to only a small fraction of the concurrent annual federal deficit," Auerbach commented.

Economic impact

At the same time, not much information about the economic impact of the corporate tax has been forthcoming. Auerbach's recent research in this area has led him to the conclusion that underlying the statistics are some serious economic problems, or "distortions" created by the tax, which have not diminished along with shrinking revenues. In fact, the reverse appears to be the case, he said, in that the amount of capital wasted "has exceeded 1.5 per cent since 1972, whereas it was never as high before."

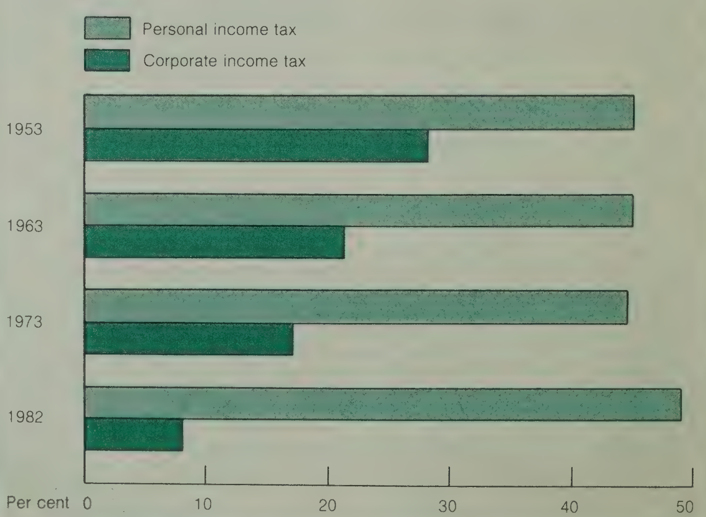
Examples of distortions

One example lies in the different ways in which assets are treated by the tax system. While the tax on machinery is often "negative" – meaning it becomes a form of subsidy – the tax on buildings remains heavy. So investing in new machinery results in a tax break for manufacturers, but investing in new buildings increases their tax burden.

Another distortion results from the fact that companies don't get any tax refund for losses they incur. That means firms without substantial existing sources of taxable income are at a major disadvantage, Auerbach contended, and are discouraged from investing.

Given the low level of corporate revenues at present, Auerbach concluded, abolition of the corporate tax has its appeal. Such a move would certainly alleviate some current problems. At the same time though, it would be a very ineffective way of stimulating investment, as it would provide a greater reduction in average tax rates than in marginal rates. Any alternative proposal would have to take that problem into account.

U.S. federal revenues from corporate income tax and personal income tax, 1953-1982



Pollution controls cut productivity in brewing industry

Environmental regulations have an effect on productivity levels. In a paper written for the Economic Council, economists W. A. Sims and J. B. Smith examine the relationship between environmental regulation and productivity growth by studying the Canadian brewing industry.

Regulations

There are two approaches to environmental protection in Canada. On a federal level, regulations set certain quality standards. Fines and/or imprisonment may be imposed for noncompliance. Often, financial assistance is made available to help defray the cost of complying. However, such regulation is very difficult to monitor, and there are seldom prosecutions. It appears there is little incentive for companies to stop polluting or to research technical innovations which could help achieve the set standards.

Economic incentives

A second approach, using economic incentives, is found at the municipal level. It involves effluent charges or a charge levied per unit of a particular kind of pollution as a means to achieve environmental standards. The theory is that firms will control or reduce pollution levels if they have to pay a price. That is realistic so long as the cost of abating pollution is less than the penalty imposed.

Breweries

The authors examine the effect of effluent charges on productivity growth in the brewing industry. The effluent charge is administered by municipalities or regional governments on their sewer systems. There is a sewer service charge, usually paid by all users whether industrial or not, to cover the costs of treating "normal" strength wastes. This is paid for as part of a regular water bill or through property tax rates. Then, there is a sewer surcharge which is levied on "extra strength" industrial emissions which exceed set limits.

It is the sewer surcharge which the authors examine in detail. There are six cities across Canada which use this approach, and the levy is imposed on emissions of various kinds, although the municipalities vary in the amount charged and the allowable levels.

The authors' study involved two breweries in municipalities with surcharge schemes and two breweries in municipalities without surcharges. Data were obtained from Statistics Canada, the breweries and municipalities.

The major inputs into brewing beer are labour, capital, energy and raw materials. The main pollutants resulting from brewing include: biochemical oxygen demand (BOD), which comes from the yeast left after fermentation, from liquor left from mashing the malt and straining liquid protein, and from spills; suspended solids (SS), which come from grain husks after mashing and straining and from a particular kind of earth used for filtering and polishing; and caustic materials, which are the result of cleansing agents in bottle washing. (These latter show up as high pH readings in the water and interfere with the working of treatment plants. Most surcharge schemes do not charge for caustic materials but instead set emission standards for them.)

For the breweries subject to a sewer surcharge, payments range from 1 to 3 per cent of total costs, enough to lead to improvements which, in turn, means a diversion of labour to procedures which reduce emission levels. The authors feel that firms would respond to economic incentives much faster and in a more pronounced way than to enforcement of direct regulations. In testing for this, they looked for a greater effect on productivity growth.

Findings

The results show sewer surcharges do, in fact, lead to significant reductions in sewerage emissions by brewing plants. Consequently, the rate of productivity growth in surcharged (i.e., regulated) breweries is significantly lower than in non-surcharged (i.e., unregulated) breweries, as human and financial resources are diverted to pollution abatement. Productivity growth rates in the regulated plants were –.008 per cent a year, compared with 1.6 per cent in unregulated plants.

The authors say their findings suggest that lower productivity growth is a "cost" of environmental protection. They conclude that it is up to policy makers to weigh this and other costs, as well as benefits, in formulating environmental protection regulations.

"The Impact of Environmental Regulation on Productivity Growth," by W. A. Sims and J. B. Smith. Discussion Paper No. 241.

National Film Board of Canada

In 1970, the average French-speaking worker earned 10 to 11 per cent less nationally than his or her English-speaking counterpart.

By 1980, the difference had virtually vanished. In that year, a Francophone worker made only 3 per cent less than the average Anglophone employee on an annual basis and actually earned 2 per cent more on an hourly base.

This striking change is only one of several significant shifts in earning power within major language groups in this country during the 1970s. They are documented in a new paper by Economic Council researchers Jac-André Boulet and Laval Lavallée.

Boulet and Lavallée use information from the 1971 and 1981 censuses to compare changes in earnings among Francophones, Anglophones and Allophones (Canadians whose mother tongue is neither English nor French). Their paper is the first to look at earnings differences between language groups at the national level since the Laurendeau-Dunton Royal Commission of the mid-1960s.

They look at income differences in Montreal, in the rest of Quebec, in the other provinces, and in Canada as a whole. They also separate each language group into male and female workers and bilingual and unilingual workers to examine differences in even greater detail.

An interesting picture emerges from the Boulet-Lavallée research.

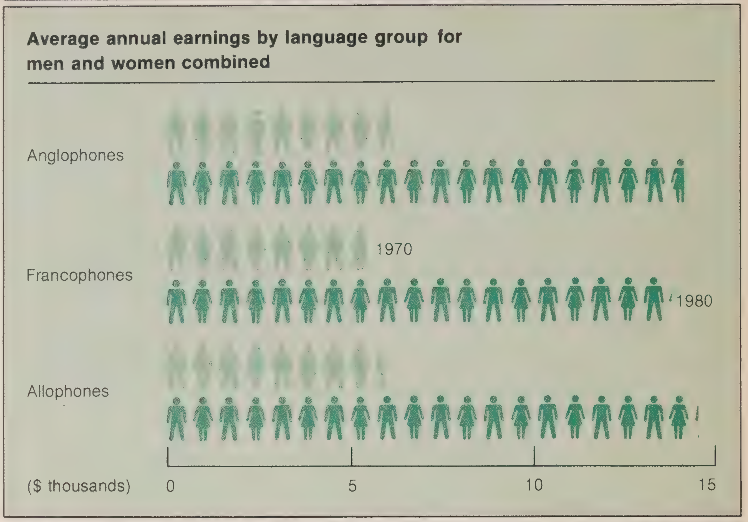
At the national level

Perhaps the most significant finding is that Anglophone workers no longer hold their once commanding lead over other language groups in average income. Francophones and Allophones both picked up a lot of ground in the last decade or so.

Male French-speaking workers improved their earnings position almost everywhere. They continued to catch up with English-speaking workers during the 1970s, but they still fell short nationally. By 1980, they had almost halved the 15 per cent lead the Anglophone workers had in 1970. On an hourly basis, the gap had narrowed from 15 per cent to 2.8 per cent.

Another major finding is that bilingualism pays growing dividends. In all groups, bilingual workers, both male and female, earn more than unilingual workers. Bilingual male workers had the highest salaries in 1980. Among Francophones, for example, they made an average of $18,561 in 1980, well

Earnings gap between French



above $14,006 for unilingual workers. There was a smaller difference among Anglophones – $19,836 to $17,474.

Looking at the Allophone group, Boulet and Lavallée find that bilingual workers sharply increased their lead over French-speaking Allophones – but their advantage over English-speaking Allophones narrowed. The authors say this suggests the earnings position of workers who didn't speak English actually worsened over the decade.

Converting annual income into hourly earnings helps Francophones gain even more ground on the other two language groups. That's because Francophones worked fewer hours, on average, in 1980. So their average hourly earnings rose higher than might have been expected. French-speaking workers earned 2 per cent more per hour than Anglophones in Canada as a whole in 1980. The gains made by Francophone women were largely responsible for this reversal of the situation ten years earlier.

Taken as a group, Francophones certainly have bettered their lot economically in relation to other language groups since 1970. The authors attribute this to circumstances within Quebec, where they are concentrated – for example, greater unionization there, improvements in its educational system, a relatively higher minimum wage, a weekly wage now higher than Ontario's and the fact that public sector and construction industry bargaining is carried out at the provincial level.

In Montreal

The regional breakdown for male workers reveals some startling changes.

For example, although Montreal's male Anglophones continued to earn the highest salaries in the country, Francophone men have considerably narrowed the gap over the years – from 51 per cent in 1961 to 33 per cent in 1970 and 14 per cent in 1980. In the same period, the Anglophone advantage over Allophones narrowed from 53 per cent in 1961 to 41 per cent in 1970 and to 23 per cent in 1980.

The income differences between the vast majority of English-speaking workers and their French-speaking counterparts (especially if they were bilingual) in Montreal were negligible in 1980, say Boulet and Lavallée. It was only in the upper income bracket – about 15 per cent of the work force – where Francophones were noticeably behind.

Francophone workers, as a group, might have sliced the Anglophone lead even more in Montreal if there had not been a change in the makeup of the English-speaking work force during the decade. The Anglophone work force shrank by 22,000 over the 1970s. The effect was to maintain average salaries

English has closed

in 1980 at a higher level than they might have been, because Anglophones leaving Montreal were apparently in the middle- to lower-income groups.

Elsewhere in the country

French-speaking men also drew closer to Anglophones in income in the rest of Quebec and in other provinces. But the highest gainers outside Quebec were bilingual Allophones who moved ahead of bilingual Anglophones and Francophones in 1980.

Bilingual workers in all language groups earned substantially more than their unilingual colleagues in provinces outside Quebec in 1980. For example, the average income of bilingual Francophone males was 52 per cent higher than earnings of unilingual French-speaking workers, up from 43 per cent in 1970.

Unilingual workers

There was a drop in hours worked for unilingual Francophones inside Quebec over the decade, but far less severe than in other provinces. However, Boulet and Lavallée say unilingual French-speaking workers in Quebec and elsewhere are finding it harder to find or to keep jobs where they match other employees in hours worked.

They point out that the income situation of unilingual Francophones outside Quebec deteriorated. While unilingual male Francophones reduced the gap in hourly earnings over the decade, they fell further behind in annual income – 59 per cent in 1980 compared with 51 per cent a decade earlier. The big reason for this decline was the growing difference in hours worked between them and other workers outside Quebec. Unilingual French-speaking women were in much the same situation.

Progress of bilingualism

The authors say the Francophone proportion of Quebec's population is increasing while the rest of the country is becoming more Anglophone. At the same time, bilingualism is growing among Anglophones and Allophones in Quebec and among all three language groups outside that province.

Bilingual workers accounted for only a slightly larger share of the labour market in Canada in 1980 than they did in 1970. But this fractional increase masked interesting changes within the different language groups.

Bilingualism grew substantially among both male Anglophones and Allophones while declining among Francophones. More than half of Francophone workers were bilingual in 1980, several times greater than the proportion of bilingual Anglophones and Allophones. However, the bilingual portion of French workers dipped 3 percentage points over the decade, limiting the overall increase in bilingualism in all language groups to less than 1 percentage point. The picture was somewhat similar among women.

In summing up, the authors say that earnings disparities between different language groups are narrowing and are less important than income gaps between men and women or natives and non-natives.

"L'évolution des disparités linguistiques de revenus de travail au Canada de 1970 à 1980," by Jac-André Boulet and Laval Lavallée. Discussion Paper No. 245.

Women's wages catching up

Women are making some headway in their bid to match male income in the work force.

The paper featured on these two pages shows that women workers earned 72 per cent as much as men on an hourly basis in 1980, up from 66.8 per cent ten years before.

The paper written by Council economists Jac-André Boulet and Laval Lavallé is the very first to examine income gaps between women of different language groups. Using census information, the authors found that French-speaking women managed to do better, on average, than Anglophone women or Allophones – those whose mother tongue is neither French nor English.

In fact, Francophone women – particularly those who are bilingual – contributed more than men to bridging the gulf in earnings between French- and English-speaking workers.

Francophone women earned 79 per cent as much as men on an hourly basis in 1980, an increase from 72 per cent in 1970. Anglophone and Allophone women both rose to 70 per cent in 1980 from 65 per cent a decade earlier.

Women made a lot less than that if you look at their annual income – Francophone females were paid about 60 per cent as much as men in 1980, for example. Evidently, other factors such as the number of hours of work had a bearing on the outcome.

Quebec women of all language groups topped all female workers. Women in Montreal were paid 77 per cent as much hourly as men, while women in the rest of the province did even better – 81 per cent.

On an hourly level, income differences between female Francophone and Anglophone workers effectively disappeared in Montreal and they were reduced in the rest of Quebec. In provinces outside Quebec, Francophone women actually slipped ahead of Anglophones.

One reason why Quebec women did so much better is that the minimum wage is higher in Quebec than elsewhere. As well, a greater proportion of working women are unionized in Quebec than in other provinces – 32 per cent compared with 23 per cent. Also, unionized women in Quebec earn 7 per cent more, on average, than unionized women outside the province.

On the other hand, the authors note that a smaller proportion of women are employed in Quebec than women in the rest of the country. As more Quebec women enter the work force, their edge in earnings may diminish, say Boulet and Lavallée.

Companies should disclose R & D spending

Changes are needed in the way information about research and development spending is collected and used. Economist Harry H. Postner, in a paper written for the Economic Council, recommends that all large Canadian corporations, whether public or private, be required to disclose what they spend on R&D.

Under existing legislation, companies are not required to disclose such information, although they do supply it on a confidential basis to Statistics Canada. Availability of such data would help researchers in their studies of productivity. Postner says there is a relationship between spending on research and development and productivity growth, but it is very difficult, at present, to try to study the relationship because of confidentiality restrictions and differing methods of collecting data.

Simulating productivity

Increasing attention is being paid to improving productivity. Research and development is often mentioned as a way of achieving better productivity because of technological advances it can bring to industry. Recent budgets have promoted more spending in this area. Spending on R&D has increased significantly in recent years and the trend is expected to continue through the 1980s. Statistical comparisons are very difficult because of how the information is gathered and because most of it remains confidential.

Data collection

Basically, information on productivity is gathered at the plant level. Spending on R&D, on the other hand, is generally reported by the company itself because such efforts are usually centralized. The trouble arises because all of a company's R&D spending is lumped together in the industry where the firm has most of its operations. In the case of large multi-industry corporations, the picture becomes more distorted because of diverse operations. The challenge, then, is to find a way of gathering the needed information so it is compatible with productivity data, in order to study the relationship between the two.

In Canada, research and development activities are concentrated in a very small number of companies. For 1982, ten firms accounted for half of the money spent on R&D. Postner finds the trend is towards greater concentration. The author turns to corporate annual reports, looking for R&D spending levels. However, some of the largest companies do not disclose their spending in this area except to Statistics Canada, which does not reveal the data. As a result, such corporate giants as CP Ltd., Texaco Canada, Ford of Canada and Chrysler Canada are not included.

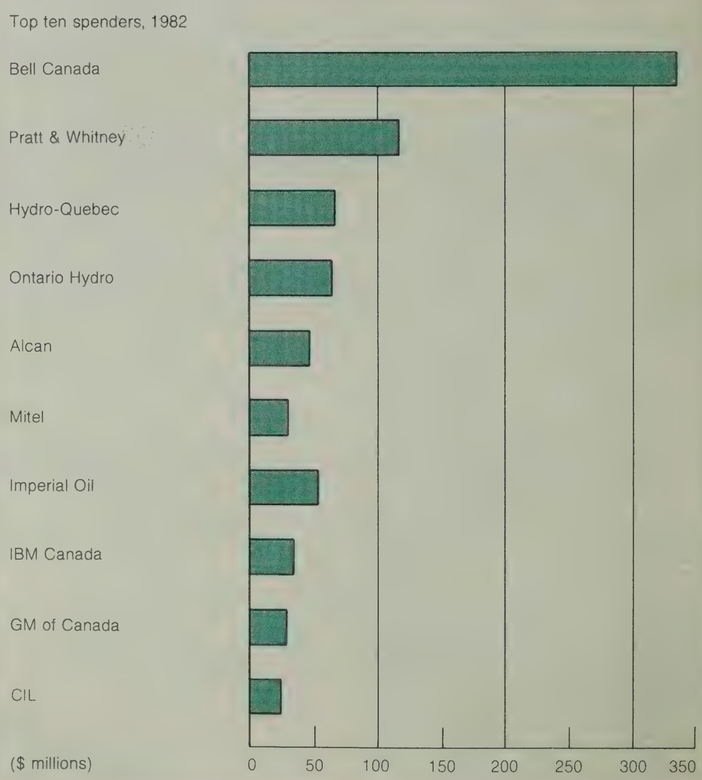
Possible solutions

According to Postner, collection and availability are the issues which need to be addressed. He favours legislation requiring all large companies to reveal their spending on R&D. He considers various options and then recommends an approach similar to that in the United States, called Line of Business reporting, whereby companies provide the R&D data for each of their industrial operations.

This method is compatible, statistically, with the way productivity data are collected. A drawback to this approach for Canada is the high amount of foreign ownership. However, this and other potential drawbacks could be eliminated, he suggests, by setting guidelines and categories for assigning the R&D expenditures.

"Statistical Problems of Relating Research and Development Data to Productivity Data," by Harry H. Postner. Discussion Paper No. 244.

What large corporations spend on R&D



New subsidies would raise living standards

A change in the kind of financial assistance governments give to farmers, business people, exporters, and prospective homeowners would lead to some improvement in Canadian living standards, says a Council economist.

Every day, people from these four sectors turn to a variety of government institutions for financial help. Governments respond through such financial "instruments" as loans and credit insurance or loan guarantees, to the tune of billions of dollars. On March 31, 1980, for example, federal and provincial loans outstanding as well as investments in agriculture, housing, exports, manufacturing and other business sectors, totaled $17.5 billion – with an additional $27.5 billion tied up in guarantees and loan insurance already in force.

A new study, written as background for the Economic Council's report on government intervention in Canada's financial markets (*Au Courant*, Vol. 3, No. 3) estimates the impact government-subsidized loans have on real economic resources – output, prices, and the use of labour and capital – in an effort to gauge the effectiveness of official financial assistance.

The main conclusion about these loan subsidies "is that their financial effects are uncertain," comments the report's author, Council economist Sylvester Damus. But it would appear that they have little effect on the economy, which only loses a fairly modest sum annually – somewhere between $15 million and $25 million (at 1977 prices) – as a result of their implementation. However, "their replacement by alternative subsidies of an equal amount could have increased economic welfare by between $72 million and $92 million, which would indicate that subsidies may not have to be removed, but redesigned."

Damus begins his analysis by constructing an economic model of the financial system in order to discover how financial assistance can change financial flows and yields or the allocation of financial resources. Both subsidized and unsubsidized loans, he observes, have more impact on liabilities and interest expenses than on "stimulating investment and production, as was perhaps originally intended." This comes about, he explains, because the private sector has a multitude of financial choices, and the government's financial activity has ambiguous effects on most of them.

Better method

A better method of transferring resources in some sectors lies in the use of production subsidies (and shelter allowances in the case of housing), Damus finds. A production subsidy is essentially a form of monetary assistance making it easier for producers to market their products – by giving farmers a penny per bushel of wheat produced, for example, instead of a low-interest loan, or by helping homeowners with their monthly expenses rather than subsidizing their mortgages.

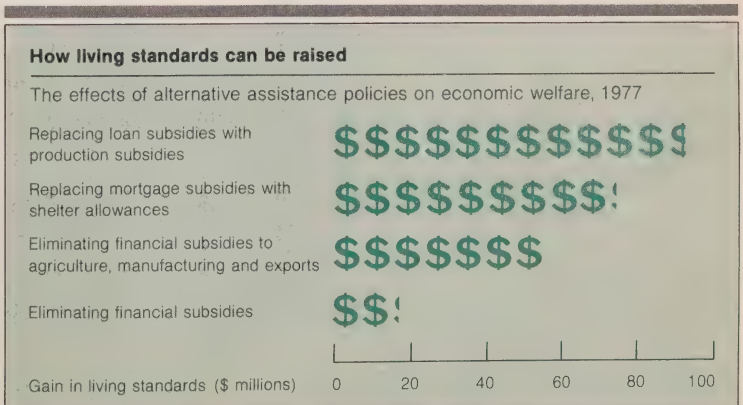
The author then develops an economic model of the 1977 Canadian economy to test the effects of 32 alternative policies – including eliminating financial subsidies in the four sectors, and substituting production subsidies – on sectoral output, employment, prices, exports and imports, the exchange rate, the rate of return, nominal income, a price index, and a welfare index. Subsequently, he compares his findings for the housing and export sectors with simulations on the effects of federal financial assistance from the Council's economic model CANDIDE, and finds that the results are similar in direction in both cases.

Effect on living standards

The chart shows how some of the policy changes would affect what economists call the "economic welfare index" – which measures our standard of living. Loan subsidies, for example, have a welfare cost of $15 million, meaning that the standard of living would be higher by that amount without this form of assistance. Their replacement by production subsidies, with no change in government spending or in the level of support given each sector, would raise the standard of living by $92 million, "showing that subsidies cannot be flatly condemned but can be improved." Similarly, replacing mortgage subsidies by shelter allowances would raise living standards by $75 million. While these gains may appear large to the layman, Damus notes, they are in fact quite small compared with the total loan volume involved and show that the Canadian economy is well adjusted to a number of tax and subsidy interventions.

The chart also shows that elimination of financial subsidies to agriculture, manufacturing, and exports boosts the welfare index by $53 million. This result masks some differences in detail within each sector, however. For example, in agriculture, where the tax burden is low and the financial risk high, loan subsidies are potentially less effective in stimulating farm output but are also less costly than production subsidies.

Government Loan Subsidies, by Sylvester Damus (EC22-116/1984E; $5.95 in Canada, $7.15 elsewhere).



Newfoundland revisited

The chairman of the Economic Council, Dr. David Slater, recently updated the Newfoundland Reference in a speech for Memorial University's Business Day in St. John's. The study of the provincial economy, *From Dependency to Self-Reliance*, was released in 1980 (*Au Courant*, Vol. 1, No. 2).

Newfoundland asked for the study to be done after the Council released a report on regional economic disparities (*Au Courant*, Vol. 1, No. 2). Among other recommendations, the Council had suggested that all provinces, except Newfoundland, use fiscal policy to help reduce unemployment levels above the national average. It was felt that Newfoundland's provincial debt – the highest in Canada – precluded such an approach.

In its study of Newfoundland, the Council examined unemployment, productivity, low earned income and the province's heavy dependence on transfer payments.

The final report contained two main messages: major opportunities existed in the resource industries and productivity increases throughout the entire provincial economy would bring economic improvements.

In his speech, Dr. Slater traced economic developments in Newfoundland in the nearly three and a half years since the release of *From Dependency to Self-Reliance*. He pointed to a series of disappointments that have affected the provincial economy in the intervening years.

Current difficulties

The fishery, he said, has not reached the level anticipated in the study. Uncertainty about the timing, scale and economics of offshore oil and gas development has delayed expected gains. While major growth in mining and forestry was not expected, it was thought the two industries would make a solid contribution to jobs and income. For the short run, at least, there has been a deterioration. There have been delays in major improvements in education, training, and productivity. And, finally, Newfoundland, along with the rest of Canada, has suffered through the worst recession in 50 years. Dr. Slater said this does not mean it will be impossible to pursue resource opportunities; it does, however, make it more difficult.

He noted that the key natural resources – the fishery and offshore petroleum – are at a crossroads, because of the 200-mile limit and offshore petroleum discoveries.

The fishery

When Canada declared jurisdiction over a 200-mile offshore economic zone, expectations rose to great heights. However, nearly everyone, said Dr. Slater, "overestimated the speed with which large returns would come out of the fishery, the ease with which this would be accomplished, and the breadth of participation in the development. In the rush to realize some of the fisheries' potential – or all of it at once – the fishery ended up in deeper trouble than it had been in for some time."

Little attention was paid to developing markets for fish and fish products. Fishing equipment was expanded. Plant and processing capacities were increased. Fish stocks, which were badly depleted when the limit was imposed, still have a long way to go.

Dr. Slater said development of the fishery needs to be carefully paced. The Council still advocates the elimination of subsidies for the fishery. As the basis of its regulatory organization, there should be a system of transferable landing rights.

Offshore oil

Dr. Slater said the initial expectations of a big bonanza from offshore development have been somewhat dampened. Oil prices have not gone up as high or as fast as expected. The federal and Newfoundland governments have not reached agreement over offshore ownership and the sharing of resource revenues. And recent exploration has found a more complex geological formation offshore, which will likely complicate recovery. Nevertheless, the Hibernia oil field appears to be safely within the margin of commercial viability.

The development of hydro-electricity, especially in the Churchill Falls area, is still a disputed issue between Quebec and Newfoundland. While Newfoundland is bound by long-term contracts to provide cheap hydro, it should consider linking future development issues to the contracts, Dr. Slater said.

Research on productivity (a key part of the study) indicated that many of the causes of low levels could be corrected. Increased plant and equipment utilization rates, more and better training, better education and the development of more efficient services were among the suggestions made. Dr. Slater repeated another Council recommendation: creating a system of on-the-job training, apprenticeship and certification.

He said such action, plus carefully planned development would lead to economic improvements and less dependence on transfer payments, later if not sooner. He concluded that the best hope lay with the people of Newfoundland, because there is no single miracle cure to the province's economic problems. However, a series of smaller steps could lead to a definite improvement.

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Chairman speaks to Macdonald Commission

Three Economic Council chairmen – past and present – drew on their experience to chart future economic strategies for the Macdonald Royal Commission in Toronto recently.

David Slater, current Council chairman, and former chairmen Arthur Smith and André Raynauld, gave the Macdonald Commission insight into how consistent Economic Council thinking has been over the years on such issues as freer trade with the United States and the value of a package of economic goals.

But the three men, whose years at the Council span almost its entire 20-year history, also outlined their own personal views as to the big questions facing Canada's economy and how to deal with them. For instance, Slater said a central issue is how smoothly and effectively Canadians are able to make decisions on problems ranging from regional development to inflation and unemployment.

They were joined by Columbia University professor Robert Mundell at the hearing of the Royal Commission on the Economic Union and Development Prospects at Toronto's Harbour Castle Hotel. Mundell, a Canadian, was asked to discuss international monetary issues.

Leading off, Slater told the commissioners and about 50 onlookers that Canada has the human and natural resource wealth to cope with the vast changes that are certain to confront this country in the coming years.

How these human and natural resources are used will help determine how effectively Canada performs economically, he suggested. Ultimately, that depends on whether Canadians are making informed, intelligent and well co-ordinated decisions.

Barriers to decision-making

For example, he indicated poor information often leads to poor private and public sector decisions. "Could we not have dealt better with such problems as inflation, unemployment, energy and world debt had we reached an understanding of these issues sooner?"

There may be other barriers to good decisions, Slater said, pointing to the need for co-ordinated action between the private and public sectors and between governments.

Slater selected several economic themes to illustrate the problems which Canadian decision makers will have to solve in coming years.

On inflation and unemployment, he stressed the importance of setting targets for economic performance nationally. Inflation, unemployment, productivity and growth targets should be treated as a package – "it is not very helpful to single out a target for inflation and remain silent on other concerns."

The Council returned recently to target-setting in the Twentieth Annual Review of the economy (*Au Courant*, Vol. 3, No. 3). The aim is to encourage Canadians to do better than expected in the next five years. The goals were designed to be realistic and balanced so the economy wouldn't be thrown out of whack by too much concentration on one problem at the expense of others.

Raynauld, who also advocated target-setting during his regime, told the Commission that "you can't obtain something in one area without looking at the others." For instance, poor performance in productivity might undermine other targets.

Slater also warned against turning to protectionism rather than facing the challenges and opportunities of changing trends in world trade. In fact, he urged Canada to pursue the idea of a North American free trade zone.

He touched as well on such issues as Canada's vulnerability to international and domestic economic shocks; the productivity slowdown; regionalism and federalism; and management of costly social programs.

Raynauld called for a "thorough re-examination of the demand management approach to economic policy." Two-thirds to three-quarters of unemployment can't be solved by stimulating demand because it isn't caused by a lack of overall demand, he said.

Glancing back at the gloomy economic conditions of the 1940s, Smith said the government then adopted policies that encouraged growth. But these have been thrust into the shadows since the mid-1960s. Among other policies, he said, the government in the early postwar period removed controls and encouraged risk-taking, promoted investment in housing stock, and took steps to boost productivity.

Similar strategies are worth trying in the 1980s, Smith argued, although they would have to be adjusted for changed circumstances.

Free trade with Japan?

Mundell recommended fixing exchange rates to restore stability to the international monetary system, and he also proposed a single income tax rate. But it was his proposal for a free trade pact between Canada and Japan which caught Macdonald's attention.

When Macdonald asked the other panelists what they thought about free trade with Japan, Slater said: "It takes two to tango." The Japanese would not want to undermine their trade relations with the United States by setting up an accord with Canada alone.

Raynauld said 70 per cent of Canada's trade is with the United States and there would be substantial transition costs if this country were to switch business to Japan. Mundell agreed with Raynauld that a free trade deal would make better sense if the United States were included in a three-way agreement with Canada and Japan.

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The Council consists of economists, specialists, and citizens from a variety of disciplines, activities, regions, and socio-economic groups. Together, we consult and advise – interacting with various governments and groups, studying, analysing, and making recommendations on significant Canadian economic issues and policies.

Research

Our staff of experts, assisted by technical and support services, provides original research and background information on many specific topics, focusing mainly on the medium- and longer-term problems of the Canadian economy.

Information

The Council also endeavours to educate and inform the Canadian public with respect to economic problems and possible solutions by making its findings and recommendations known to the media and to the individuals and groups involved in discussions of public policy.

Whether the issues we address are as regional as the development of Western Canada or as national in scope as the problems that face women in the marketplace, the Council continually seeks to improve economic policy and its impact on Canadians.

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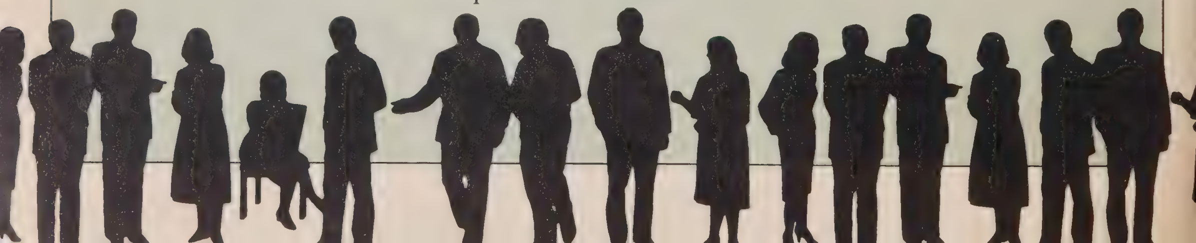
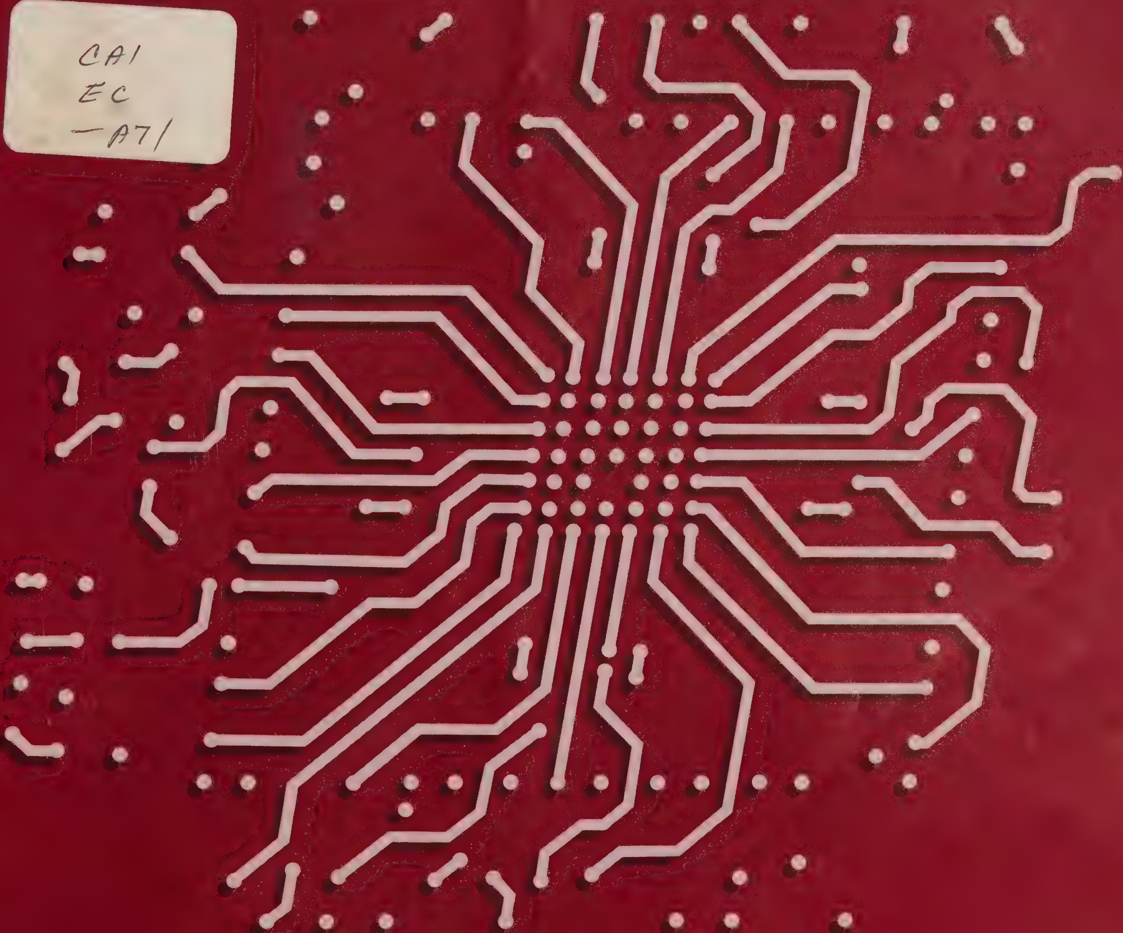


Economic Council of Canada
Volume 5, No. 1, 1984

au courant

Energy matters
Manitoba's manufacturing industry
Taxation study underway

The computer puzzle



PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). Two new titles have been published since the last issue of *Au Courant*:

Financial Risk, Rate of Return of Canadian Firms, and Implications for Government Intervention, *by Jean-Marie Gagnon and Benoît Papillon* (EC22-118/1984E; $8.95 in Canada, $10.75 elsewhere).

The Adoption of Computer Technology by Insurance Companies, *by Steven Globerman* (EC22-119/1984E; $4.95 in Canada, $5.95 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 252 "Equal-Pay-for-Equal Work Legislation in Canada," *by J. Alexander*.

No. 253 "OPEC and the Value of Canada's Energy Resources: A Long-Range Simulation Model," *by T. Hazledine, S. Guiton, L. Froehlich, and P. Mercier*.

No. 254 "The Manufacturing Sector in Manitoba," *by N. E. Cameron, J. M. Dean, and W. S. Good*.

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No. 258 "An Economic Analysis of Hydrocarbon Developments in the Beaufort Sea," *by P. Eglington and M. Uffelmann*.

No. 259 "An Economic Analysis of Oilsands Policy in Canada: the Case of Alsands and Wolf Lake," *by P. Eglington and M. Uffelmann*.

No. 260 "An Economic Analysis of Enhanced Oil Recovery in Conventional Light Oil Pools in Alberta," *by P. Eglington and J. A. Nugent*.

No. 261 "An Economic Analysis of the Venture Development Project and Hibernia," *by P. Eglington and M. Uffelmann*.

No. 262 "An Assessment of the Competitiveness of Selected Energy Conservation and Alternative Energy Technologies," *by S. G. Diener and S. Dupont*.

Reprints

The following research study has been reprinted, and can be ordered according to the information below:

Economic Intervention and Regulation in Canadian Agriculture, *by J. D. Forbes, R. D. Hughes and T. K. Warley* (EC22-102/E; $7.95 in Canada, $9.55 elsewhere).

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Ontario, K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

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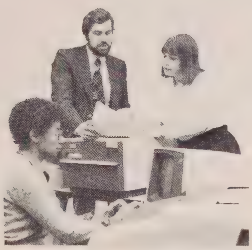

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Oil prices: unstable past, uncertain future

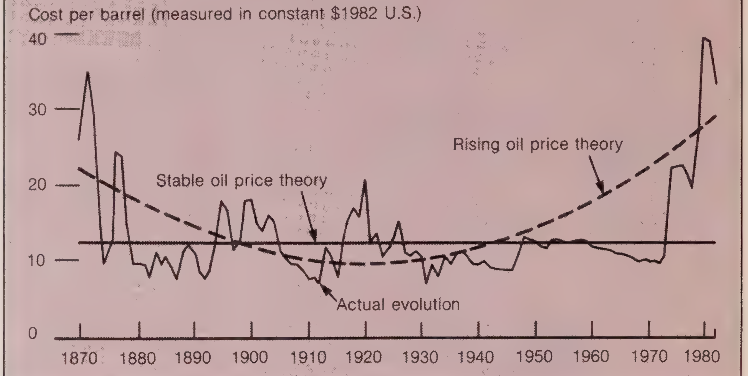
What's the long-term outlook for world oil prices? Can we expect another, possibly sharp, increase by the end of the decade, as some experts believe? Or should we put our faith in analysts who argue that, by the close of the century, the cost will have dropped and stabilized at about $14 a barrel?

These are crucial questions, particularly in terms of charting an energy strategy for the future. But identifying future trends is no easy matter, a recent Economic Council paper finds.

Michèle Bourque, in research conducted for the Council's energy project (*Au Courant*, Vol. 3, No. 2), traces the evolution of oil prices from 1870 to the present. She then uses that data in an empirical test of two conflicting theories on the long-term outlook: one claiming the real price of oil will rise over the long term, as oil reserves are gradually exhausted; and the other contending it will remain constant in real terms, thanks to declining demand, substitution of alternate energy forms, the richness of unexploited reserves, and slower economic growth.

What could happen to oil prices

Test of two theories on the future outlook



History of oil prices

Oil prices have followed an erratic course ever since the earliest days of the petroleum industry. Bourque links these fluctuations to specific political and economic events, and compares oil price trends to those in the coal, natural gas, and electric power markets. As she sees it, the history of the petroleum industry can be divided into three distinct periods.

U.S. domination

From 1870 to 1945, the United States was the undisputed leader in the industry, producing, exporting, and consuming more crude oil than any other country. In 1939, for example, the U.S. produced 63 per cent of all crude oil, consumed 60 per cent, and refined 71 per cent.

So the U.S. determined the price of oil for the entire world. But prices were controlled by the big oil companies rather than by government, and wild fluctuations were the order of the day, averaging 19 per cent annually between 1870 and 1945.

The formation of the Texas Railroad Commission (TRC) in 1933, whereby the state began to regulate petroleum production, marked the onset of relative price stability.

Emergence Middle East

This trend continued until 1972. Despite a significant increase in demand, prices (controlled by the TRC) rose only 0.6 per cent a year in real terms. With the emergence of the Middle East as a major oil-producing region, and the subsequent formation of the Organization of Petroleum Exporting Countries (OPEC) in 1960, this second phase ended U.S. domination of the market.

OPEC era

The impact of OPEC's price hikes in 1973-74 – which raised the price of oil almost fourfold – forced U.S. producers and consumers alike to change their energy requirements almost overnight, and consumption dropped sharply. Consequently, oil prices stabilized and actually fell by 11 per cent in real terms by 1978. But with the outbreak of the Iranian revolution, they once again shot upward, reaching a peak of $34 a barrel by late 1981. Since then, declining energy demands, coupled with increased production from non-OPEC countries, has had the effect of lowering prices to under $30 a barrel.

One question inevitably raised by recent events concerns OPEC's future as the dominant force in the market. Despite its somewhat precarious current position, it would be a mistake to underestimate the Organization, Bourque cautions, since oil production costs in its member countries remain much lower than those elsewhere. Still, the market should be more stable in the future than it was in the 1972-81 period, she adds.

Future outlook

Bourque attempts to test the validity of the two major predictions concerning future oil prices, by mathematically determining how well they were reflected in historical trends (see chart). That exercise leads her to conclude that "neither theory can be rejected out of hand." The instability which characterized the petroleum market in the past, she concludes, makes predicting future trends difficult, if not downright impossible.

"Évolution du prix international du pétrole, de 1870 à nos jours," by Michèle Bourque. Discussion Paper No. 257.

Best bets for home heating and car fuel

If you own a home and drive a car, then you'll be intrigued by the contents of a new Economic Council paper. It talks about the best investment in home heating and the most economical fuel for cars in the future.

Economists Steven G. Diener and Serge Dupont, in research carried out for the Council's study on energy (*Au Courant*, Vol. 3, No. 2), have analysed the effectiveness of a number of promising new energy technologies, including process heat and electricity generation in the industrial sector, site-specific renewable energies, space heating devices for private homes, and potential substitutes for gasoline.

Authors' approach

The authors choose 1995 as the test-case year for evaluating the cost-competitiveness of the various options. They then assess each new technology on two counts.

They look at its economic feasibility – that is, whether it saves energy, or produces it more cheaply than conventional supplies – on the assumption first, that world oil prices, in real terms, will stay at the mid-1983 level, and then alternatively, that they will increase by 50 per cent by 1995.

The authors also consider the technologies from the standpoint of their commercial feasibility – whether they represent an attractive investment for the consumer. In this case, they assume the mid-1983 market price of energy will remain unchanged in real terms up to and beyond 1995.

Home heating

Diener and Dupont determine heating costs (measured in 1981 dollars per gigajoule) for three new devices – the condensing (high-efficiency) gas furnace, the electric heat pump, and the central wood furnace – in new 1995 homes in 11 cities across Canada. Then they compare these costs with those incurred by the conventional oil and gas furnaces, and by electric heating, with the following results.

Economic feasibility

Assuming oil prices don't change, the condensing gas furnace promises to be the cheapest heating system for homes in the East and the Prairies (where gas is available). The heat pump is noticeably more expensive, although if its capacity to provide air conditioning is taken into account, it becomes an attractive option in Ontario and Quebec. The central wood furnace is a good investment in the Maritimes and in other rural regions where natural gas is not available. Heating by electricity is the costliest method of all, leading the authors to question its economic competitiveness.

The chart demonstrates the outcome if oil prices increase over the decade. In that case, the three new systems become even better investments, particularly the condensing gas furnace.

Consumer benefits

The most efficient heating systems from an economic standpoint are also likely to be the best buy for the consumer, the authors find. But homeowners need to be made aware of the best long-term investments, since they will otherwise opt for the cheapest system available at the time of purchase.

Fuel for cars

The authors take the same analytical approach in evaluating the most efficient fuel for both private and commercial vehicles (that is, those traveling substantially longer distances).

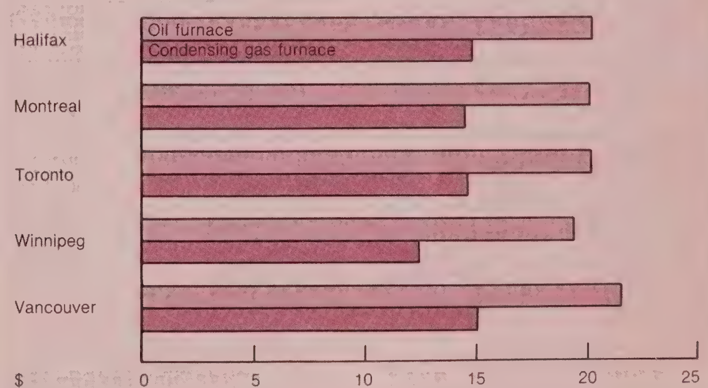
When they check out four potential substitutes for gasoline – diesel, propane, compressed natural gas (CNG) and methanol – they find that, with stable oil prices, gasoline remains the cheapest fuel for private cars. But for commercial ones, diesel proves to be by far the best bet. Moreover, if oil prices go up, diesel becomes the cheapest fuel across the board.

Propane and CNG are not competitive with gas or diesel in either oil price case, and methanol is more expensive still. Yet at the moment, governments are busy promoting propane and CNG as substitute fuels, indicating that policy changes are in order.

"An Assessment of the Competitiveness of Selected Energy Conservation and Alternative Energy Technologies," by Steven G. Diener and Serge Dupont, Discussion Paper No. 262.

What will it cost to heat your home?

A comparison of two options for new 1995 homes in selected cities[1], assuming oil prices rise



[1]Prices are given in constant \$1981 per gigajoule of useful heat, and are based on a 10 per cent real discount rate.

Deregulation is up in the air

Airline deregulation has been the subject of heated debate in recent months. Its advocates argue that removing the restrictions limiting competition among airlines would increase productivity and lower fares, giving consumers a better deal. Its critics, on the other hand, contend that any such move would lead to massive reductions in service and routes, and could even force some airlines out of business.

Three years ago, in its report on government regulation of the economy (*Au Courant*, Vol. 2, No. 1) the Economic Council came out in favour of moving towards deregulation of the airline industry. Within reason, it said, airlines should be allowed to set their own fares, and barriers preventing the entry of existing or new carriers to new markets should be reduced.

"With unrestricted entry and only limited economies of scale," concluded the Council, "we foresee that the self-regulating effects of market forces will provide a greater choice of fares and services for consumers, increased pressures to keep costs down, and greater pressure and opportunity for innovation. Equally important, a more competitive, less protective environment will facilitate the adaptation of the nation's air transportation system to the changing requirements and transportation modes of future generations."

The report's analysis and recommendations are just as pertinent today, as the following summary demonstrates.

Regulation has served its purpose

The Council noted that, after more than 40 years of regulation, government policy on air transportation has achieved many of its objectives. A large reliable system of air carriers serves the country, reaching even remote and isolated communities. By most international comparisons fares are not exorbitant, and the quality of service is usually high.

So the time has now come, said the Council, to let the industry take wing on its own. Loosening price and entry controls would result in a wider choice of fares and quality of service, as well as greater efficiency. Fares would likely fall on high-volume routes, as passengers accepted less service in exchange for lower prices. By using more appropriate equipment for each route, airlines could operate more efficiently. The actual or threatened entry of new carriers into the industry would bring fares into line with the cost of producing services. In addition, carriers would no longer have to bear the cost of regulation, nor undergo delays in receiving price and route authorization.

Most of these benefits had been recorded in the United States, where wholesale deregulation took effect in 1978, the Council observed.

Adjustment problems

The Council anticipated that the new system could have some teething problems. For example, greater competition might cause Air Canada to drop some unprofitable runs. However, these routes might be picked up by regional or local carriers with more appropriate aircraft and services, as proved to be the case in the United States. If not, consideration should be given to instituting direct subsidies to make sure that isolated communities continue to receive service, the Council said. As another example, some airlines might be forced out of business but others would expand, and new ones would start up.

Council recommendations

Specific recommendations with continuing relevance today included the following:

Freedom of entry

- To encourage new airlines to join the industry, the Council proposed a "one way swinging gate" approach. Any new or existing regional or local airline would be able to enter any market served by Air Canada or CP Air, but the two major airlines would not be allowed to fly on domestic routes served by regional or local carriers. Each of the two national airlines would be free to compete on any domestic route now served by the other;
- New airlines should be permitted to compete on transborder and international routes, now largely the preserve of Air Canada and CP Air. Where bilateral agreements allow only one Canadian carrier on an international route, then all airlines should be allowed to bid for that route;

Fare-setting

- All national, regional, and local carriers should be allowed to set their own fares. However, until a completely competitive environment has been created, a ceiling should be established by the Canadian Transport Commission in order to protect the consumer;

Charter flights

- Regulations on domestic and international charter operations should be cut back, to allow for as much competition as possible between charter and scheduled carriers. In particular, minimum stay and advance-booking requirements should be reduced, and the intermingling of various types of charter groups should be permitted.

Government loans to business questionable

It's a familiar story nowadays – the small businessperson staggering under a heavy debt load, trying to build a company and stave off bankruptcy.

Just as familiar is one well-tried solution – more loans from somewhere.

The government approach to helping small and medium-sized business has generally followed this well-worn path. Federal and provincial lending institutions have leaned heavily towards loan and loan guarantee programs.

But now a new study, written as part of the Economic Council's report on government lending (*Au Courant*, Vol. 3, No. 3), questions this method of aiding firms to survive and prosper.

Economists Jean-Marie Gagnon and Benoît Papillon have concluded that "society as a whole has more to lose than to gain from government loan and loan guarantee programs."

Their study breaks new ground because it uses company data (while protecting confidentiality) rather than industry or Canadian averages, as is generally the case in these kinds of analyses.

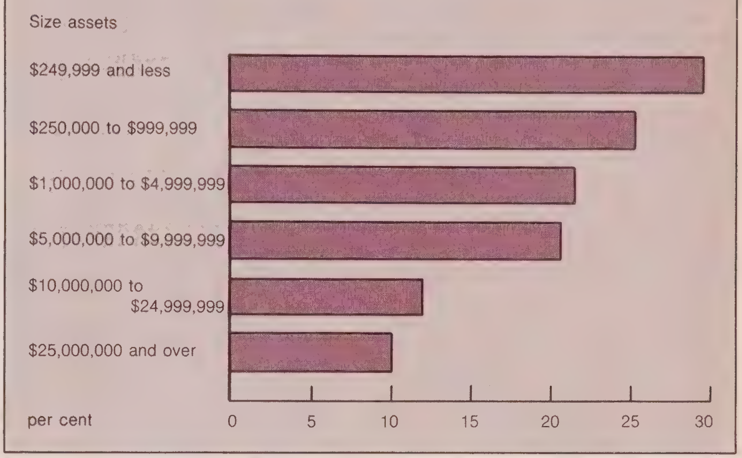
Gagnon, an economist and chartered accountant, and Papillon studied company financial statements to see whether difficulties in securing loans (particularly term loans) justify a strong government lending role. They also set out to determine in what ways small businesses are different from larger firms in their financial make-up, as most government programs are geared, at least in principle, to the former.

The researchers sifted financial data on a sample of approximately 15,000 firms. They broke this total down into 23 industry groups, 10 economic regions across the country, and six classes of firms ranging in size from less than $250,000 in total assets in the lowest group to more than $25 million in the highest.

Testing the financial health of businesses, they examined debt-to-assets ratios and rates of return as well as the burden of short-term debt, as well as other financial ratios.

Authors' findings

The authors discover that debt levels fall as a proportion of assets as companies grow in size (see chart). Although there are some exceptions, this is generally proved to be true for most industries in the primary and secondary sectors. (Shareholders' loans are considered as equity.)



Small companies have the biggest debt load

Proportion of firms in 1977 with a debt/asset ratio greater than 77 per cent

High levels of debt compared to assets are often a sign that a company is walking on eggs. The Gagnon-Papillon study indicates that small businesses generally have a higher debt-to-assets ratio than larger corporations.

As for rates of return, there are fewer cases of unusually high profits or losses among large corporations than among smaller firms. Moreover, they determine that, as companies grow and their rates of return increase, their debt levels drop relative to assets.

But most significantly, the higher proportion of debt – or loans – carried by small firms undermines claims that they can't get loans. "Obviously they can borrow," the authors write. "They have done so to a larger extent than larger firms."

Gagnon and Papillon offer several possible explanations as to why small businesses seem to rely relatively more on borrowed money than bigger firms do, such as the behaviour of the owner-manager, and the high cost of getting outside investment rather than loans.

Whatever the reasons, the researchers say, there is little evidence current federal and provincial loan programs and lending institutions, which served a purpose in the past continue to be needed to the same extent nowadays.

Also, current government programs are not economically efficient, they argue. By providing loans, government institutions are helping small and medium-sized business to increase debt as opposed to equity. That makes these firms riskier financially and more prone to bankruptcy.

Instead of government lending programs, the authors suggest a variety of approaches, ranging from improving investment incentives to removing barriers against new bidders entering the market for new stock issues.

Financial Risk, Rate of Return of Canadian Firms, and Implications for Government Intervention, by Jean-Marie Gagnon and Benoît Papillon. (EC22-118/1984; $8.95 in Canada, $10.75 elsewhere)

The computer puzzle: why isn't new technol

Computer technology doesn't necessarily spread like wildfire, despite its obvious attractions.

Recent research into the use of computers in insurance companies finds that the new system caught on quickly when it was first introduced in both the United States and Canada.

But its diffusion throughout the industry thereafter has been surprisingly slow.

Why?

The answers to that question could be significant because technological advance is considered a key step to raising the living standards of all Canadians.

Economist Steven Globerman of Simon Fraser University has come up with some answers which point to problems within the industry itself and in the way computer services were offered to insurance companies.

He offers no quick fixes. He sees only a limited government role at the moment in helping to speed up technical change in the private insurance industry. But he does recommend a reshaping of the education system to make it better able to meet the needs for skilled computer people.

In a study prepared for the Council's study on technology, trade, and income growth (*Au Courant*, Vol. 4, No. 1), Globerman picked the spread of electronic data processing in the insurance business as a case history of technical change in service industries. Service industries are important to the economy – employment there has grown to 67 per cent of the Canadian workforce from just over 40 per cent after the Second World War.

Globerman set out to discover how fast data processing was adopted by life and general insurance companies and what contributed to this process. He was also interested in finding out whether any shortcomings in the private sector called for more government action.

As part of his study, Globerman compares the use of electronic data processing in Canadian and American insurance companies. He finds that the American industry got a head start in using computers. But Canadian firms caught up and seemed to be using them a bit more extensively by the mid-1970s. So he concludes that Canadian and American insurers had "remarkably similar" records.

But his study centres primarily on the process of technical change in the Canadian industry. This process includes the rate at which other firms in the industry take up the technical innovation once it has been introduced commercially. And

Testing a new system

Feature Four Ltd. Courtesy of *Canadian Insurance*

What firms are likely to install computers?

Factors affecting automation in the insurance industry

Positive factors	**Negative factors**
Large size	Small size
Canadian-owned	Foreign-owned
Simple operations	Complex operations
Toronto-based (to a slight degree)	

it also involves how fast the innovation replaces older methods within firms.

The life and general insurance branch of the Canadian industry are weighty financially. Life insurance companies ha assets of $42 billion in 1979 and general insurers about $10 billion. Together tha is a bit more than one-quarter of the tot assets of Canada's chartered banks.

The Canadian insurance industry beg using computers almost 30 years ago. Insurers were ahead of such institutions hospitals and university libraries.

By 1960, insurance companies accounted for 16 per cent of total computer use while employing only 4 per cer of Canadian workers. So insurers were obviously off to a quick start.

Computer technology in the insurance industry was applied first to elementary accounting operations such as bookkeeping. By 1965, however, life insurance firms were extending use of data process ing to include agents' commissions, man agement control, and policy developmen

Still, major insurance companies were only beginning to tap the potential of da processing in the insurance business by the mid-1960s. And many companies we not using computers at all. Even by 196 88 per cent of insurance firms were not automated.

While computer use flowed more broadly through the industry in later years, it was still not filtering down muc to the level of local insurance agents in t late 1970s and early 1980s. Even by 198 90 per cent of agency offices were not

spreading faster?

nated.

ny did use of data processing slow after such a promising beginning? erman outlines a number of reasons – of them shared with other service tries. They emerge from his descrip-of how computer services spread.

t surprisingly, the biggest insurance anies were first to use computers and uter services. One reason was that osts of buying and using the first "mainframe" computers were too for smaller firms.

ese costs – "indivisibilities" in the age of economics – were also barri-computer use in other service indus-

is obstacle apparently remained rtant for a long time – the average oany size for automated life insurance was nine times that of non-auto-d insurers in 1969.

size was the only factor in spreading uter services, we might simply sit and accept that slow diffusion is table in an industry with many small . But the Globerman report notes some of the non-automated insurers 69 were bigger than the smallest nated companies. So there must be elements.

ere are. The most obvious is "scaling " – methods of making new tech-nology available to small business after initial use by larger companies.

Frequently, Canadian firms pick up "scaled down" technology from Canadian subsidiaries of U.S. companies. But apparently that was not the case in the insurance industry, partly because U.S. parent companies were centring their data processing at head office. Yet there was some scaling down going on over the years. "Service bureaus" and minicomputers were prime contributors.

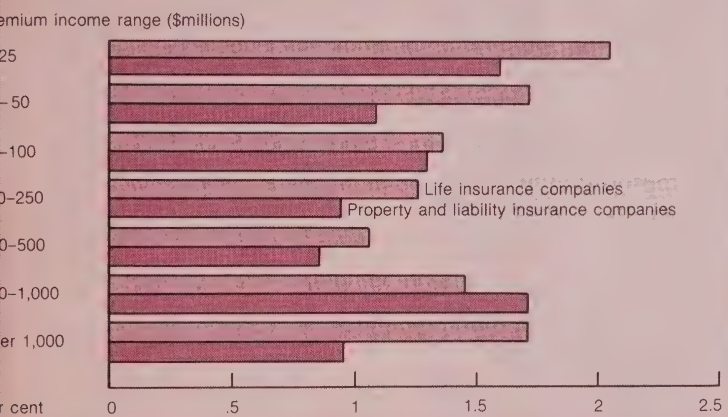
The service bureau idea popped up in the mid-1960s. Basically, it allows small firms to rent the services of a central processing unit owned by special computer service companies or large insurers. The costs of computers and other services are spread over a large number of companies unable to afford their own computer systems. Service bureaus did help; but half the insurance companies in 1969 were evidently not using them.

Another scaling down technique was the creation of computer networks linking minicomputers in regional offices to the central computer in head office or the service bureau. That enabled much of the data processing to be done locally rather than at headquarters.

Potentially, the less costly minicomputer and later microcomputer also offered local insurance agents the chance to link directly with insurance companies. But so far, the vast majority have not done so.

ta processing cheapest for medium-sized insurance firms

tal data processing costs as a percentage of premium income, 1977



There are several explanations as to why scaling down did not spur more companies to adopt the new technology.

One reason often mentioned, says Globerman, is that there was limited outside help in designing new computer systems and programs for the particular needs of small and medium-sized insurance companies.

Scarcity of systems analysts and programmers also made it too expensive for minicomputer manufacturers to make off-the-shelf computer programs for these smaller insurers.

Lack of standardization is another reason. Insurance companies use different computer systems and that is a barrier for independent agents selling insurance for several different firms.

Recommendations for improvement

So what should be done to improve the flow of data processing innovations through the industry?

Standardization is obviously one step. The insurance industries in both Canada and the United States are working on that now, although it has proceeded slowly so far, Globerman notes. But there is widespread interest among insurers.

There is no clear-cut reason for government intervention here, the author says, unless large insurers are unwilling, or unable, to help bring about standardization.

However, the public education system can be streamlined to produce more computer people. To date, it has been slow to respond to growing demand for data processing training and computer science programs.

But seniority, tenure, and other problems often stand in the way of rapid reform of the education system. So Globerman proposes a "fairly free cross-border flow of skilled labour, and substitutes for skilled labour" between the U.S. and Canada. Policies to restrict movement of data and data processing services would be damaging.

The Adoption of Computer Technology by Insurance Companies, by Steven Globerman (EC22-119/1984E; $4.95 in Canada, $5.95 elsewhere).

Japan key to future Canadian meat industry

Japan is important to the future of western Canada's livestock and meat processing industries. But first, Canada has to break through some of Japan's trade barriers.

Those are some of the conclusions reached by William A. Kerr and S. Monica Ulmer in a background paper prepared for the Economic Council's study of economic growth in western Canada (*Au Courant*, Vol. 3, No. 1).

The two industries have been important historically to the four western provinces. In fact, meat processing employed 12,000 people in 1981 and stood as the leading manufacturing industry in the Prairies. The livestock industry accounted for more than a quarter of total farm cash receipts in the same year.

Problems arise

Signs of trouble started to appear in the mid- to late-1970s. Population growth in western Canada started to taper off and consumption of beef, pork, lamb, and poultry stopped rising.

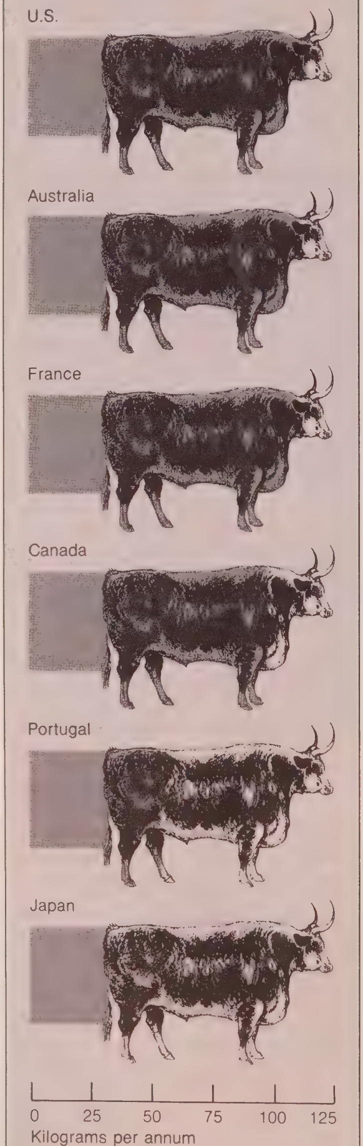
Chronic inflation raised transport costs for all shippers, but less for eastern cattlemen than western ones. This was partly due to the Crow rate, which moderated the increases in grain delivery costs to the east that would otherwise have followed upon the general inflation.

Meanwhile, many provincial governments were working at promoting self-sufficiency. The most successful effort was in Quebec, which greatly expanded the size of its hog industry to a large degree at the expense of the West. The growing trend towards agricultural balkanization took a severe toll in the poultry industry. The creation of federal and provincial marketing boards, which set production quotas and prices, has left many western poultry producers in an uncompetitive position outside their own provincial market.

All these developments meant that the livestock industry entered the 1980s with large amounts of excess capacity and almost no growth. Kerr and Ulmer say that was "a considerable change for an industry which had experienced over 20 years of fairly continuous growth."

Where are the meat-eaters?

Per capita meat consumption in selected countries



Future prospects

The authors construct various scenarios for the future, based on consumption patterns (staying the same, increasing slightly, and increasing markedly) and assuming population growth of 2 per cent a year.

Even in the most optimistic case, there would be little growth, domestically, until the mid-1990s, if at all. While the U.S. holds little potential for new markets, significant growth would be possible from a better exploitation of existing ones.

Real opportunities may arise if the Japanese market can be cracked. Kerr and Ulmer conclude that the government there is artificially restricting meat consumption, trying to prevent demand for meat from developing. Meat is the most expensive of the imported food groups and they say the Japanese government would rather spend money on raw material imports for industry or on cheaper foods.

Their research indicates that "with a population of 117 million people, a one kilogram increase in (Japanese) consumption per capita translates into 20 per cent of western Canadian slaughter of beef or 47 per cent of western Canadian hog production." As the chart shows, meat consumption in Japan is far below other countries with similar income levels, indicating the likelihood of pent-up demand. Even moderate growth of Canada's share of the Japanese market would lead to large investments by the end of the decade and definite economic benefits for western Canada.

For example, the Japanese prefer much fattier beef than Canadians. That being the case, separate suppliers for that market would likely have more success in selling their products. Similarly, they suggest that efforts should be made to identify different kinds of meat products which would be competitive internationally.

"The Importance of the Livestock and Meat Processing Industries to Western Growth," by William A. Kerr and S. Monica Ulmer, Discussion Paper No. 255.

Manitoba manufacturing firms are doing well

Manufacturing is alive and well in Manitoba, according to the results of a recent survey.

The overall provincial picture of that sector is one of "viable, independent, fairly small-scale industries, living principally off Canadian markets and making little use of government financial assistance programs," concludes a paper prepared by a Manitoba consulting firm as background for the Economic Council's study of the western Canadian economy (*Au Courant*, Vol. 3, No. 1).

Authors N. E. Cameron, J. M. Dean, and W. S. Good of G&B Research Associates, in an introductory statistical overview of Manitoba's manufacturing sector, describe it as an important, stabilizing segment of the provincial economy. Accounting for 13 per cent of provincial employment, 14 per cent of gross domestic product, and 9 per cent of investment, the sector is growing faster than most others. It is heavily dependent on small business (80 per cent of manufacturing firms fall into this category), and is export-oriented.

Two-industry survey

The majority of the report is devoted to a detailed survey of firms in two particular manufacturing industries – clothing and transportation equipment – chosen because of their importance in the sector at large, and because neither has an obvious comparative advantage in Manitoba through location or natural resource availability.

Ninety-six companies – approximately three-quarters of the original sample – were interviewed successfully by means of a questionnaire designed to discover the kinds of firms in each industry, their reasons for locating in Manitoba, and the factors influencing their growth. Analysis of their response leads the authors to a number of conclusions, including the following:

- Both industries consist mainly of small to medium-sized companies, ranging in age from very old to very young. Small business is particularly active in the transportation equipment sector, where just under half of the responding firms have fewer than 25 employees. New firms tend to be smaller than older ones and to do less exporting;
- Recent growth in both industries is as much due to expansion of existing firms as to entry of new ones. At the same time, an impressive number of new companies have been created in Manitoba through the spinning off of personnel from existing firms;
- A very high proportion (92 per cent) of respondents are independent companies, rather than branch plants or subsidiaries. These firms make less use of government assistance programs and much more use of retained earnings to finance expansion;
- One of the most striking features of the survey results, according to the authors, is the importance of personal factors in the location and expansion of firms. The majority (particularly non-exporting firms) chose to start up in Manitoba for non-business rather than economic reasons (such as wage costs, availability of capital, cost of raw materials and so on).

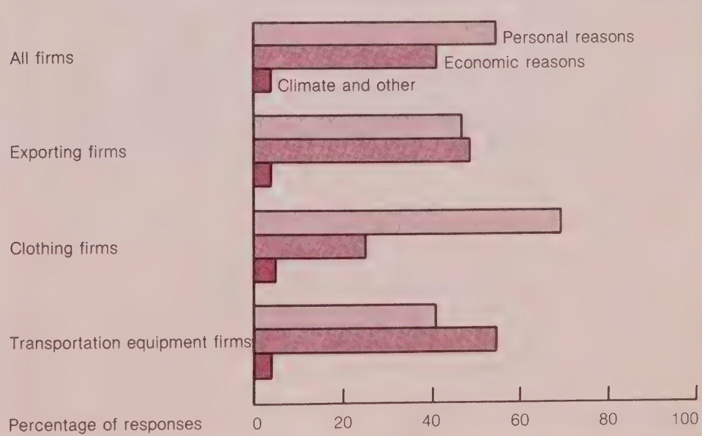
The large number of independent firms in Manitoba, and the priority their founders give to personal factors in the choice of location, probably explain the otherwise somewhat puzzling prominence of manufacturing in a province which, according to the authors, has no clear advantage over others as far as unit labour costs are concerned. The Manitoba experience is most surprising, running counter to other research findings that have shown management decisions concerning plant location to be principally economic in nature.

Conclusion

The importance of small firms in Manitoba suggests a need for fewer and simpler government programs, rather than numerous, detailed, and precisely targeted schemes, say the authors. Modifications to the tax system to provide relief to a business during its early years of operation, provision of tax relief or deferral on goods sold abroad, and guarantees for some proportion of loans negotiated by a small or starting business from a bank or credit union are proposals which would likely be well received, they conclude.

"The Manufacturing Sector in Manitoba," by N. E. Cameron, J. M. Dean, and W. S. Good. Discussion Paper No. 254.

Why firms chose Manitoba



The energy outlook: what lies ahead for Canada?

Canada's energy resources are worth more as a result of the world oil price shocks of the early 1970s. What might the future hold if the world situation changes or if governments introduce different energy policies?

A group of researchers, led by Tim Hazledine, carried out such simulations as background for the Economic Council's western project (*Au Courant*, Vol. 3, No. 1). A mathematical model was created to simulate the effects of various assumptions up to the year 2000. While a simulation is not a forecast, it is a valuable tool for analysing the range of outcomes possible under certain circumstances.

Base case

In the base case (using existing federal and provincial energy policies), Canadian prices move gradually towards world levels, increasing 2 per cent a year in real terms between 1981 and 2000.

The result is an increase in total Canadian energy output by 2000. Oilsands and frontier reserves become more important for oil production. Natural gas production peaks before the end of the century, but stays above the 1980 level.

Electricity output increases by 25 per cent and the production of alternative energy shows a sixfold increase. Overall, total energy consumption decreases by 2 per cent.

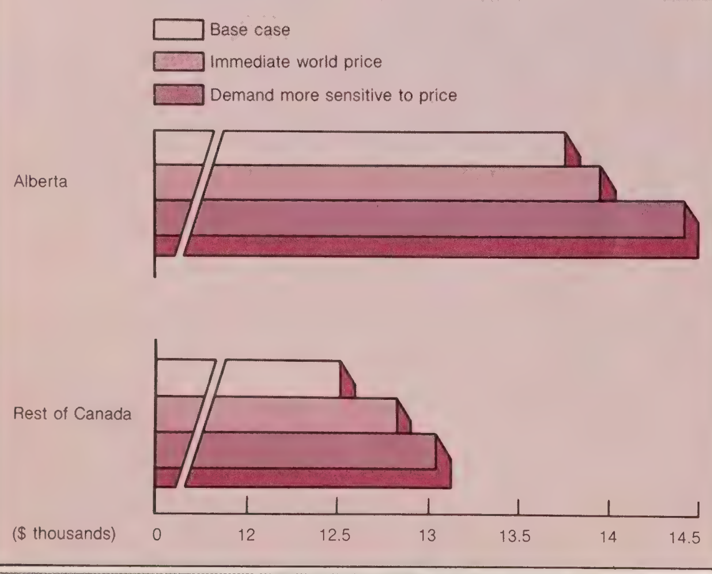
In the base case, oil self-sufficiency is achieved early, but production costs increase fourfold because of dependence on more expensive sources. Per capita incomes grow, although the increase in Alberta is less than that in the rest of Canada. The value of the Canadian dollar increases, keeping the balance of payments "tolerably close to zero through the simulation."

Alternative scenarios

Eleven other simulations were compared with the base case. Three of them are detailed here.

How energy developments could affect your pocketbook

Changes in real per capita consumption using three alternative scenarios



In one of these scenarios, Canadian energy prices are raised immediately to world levels and follow the world price thereafter. The advantage of such a move is that Canadians would be better off; real incomes rise and with that, there are improvements in living standards.

Another simulation involves increased investment in oilsands and frontier oil projects. The results are surprising: whatever benefits there are go not to Albertans but to the rest of Canada.

Additional oilsands output has a substantial effect on real incomes: per capita consumption in Alberta falls by $200 or more by the year 2000, while, in the rest of Canada, it increases by $170. In this scenario, domestic energy prices drop because of an appreciated Canadian dollar. That means less resource rent to the producers of conventional oil and gas – having a much greater impact in Alberta than in the rest of the country.

Finally, simulations are carried out on the sensitivity of energy demand to price. The assumption is that price sensitivity of oil consumption depends on the alternatives available. In this scenario, Canadian energy price sensitivity is assumed to be larger than in the base case.

Several of the National Energy Program's policies are designed to make alternative energy more readily available (e.g., off-oil grants). If they succeed, oil consumption will become much more sensitive to price. With oil prices rising, then Canadians will turn increasingly to alternatives and, therefore, consume less oil.

In this final simulation, total Canadian energy use drops to less than 60 per cent of the base case level in 2000. Net energy exports increase significantly, as does the value of the Canadian dollar, and that translates into a major improvement in terms of trade.

"OPEC and the Value of Canada's Energy Resources: A Long-Range Simulation Model," by Tim Hazledine, Steve Guiton, Lorraine Froehlich, and Pierre Mercier. Discussion Paper No. 253.

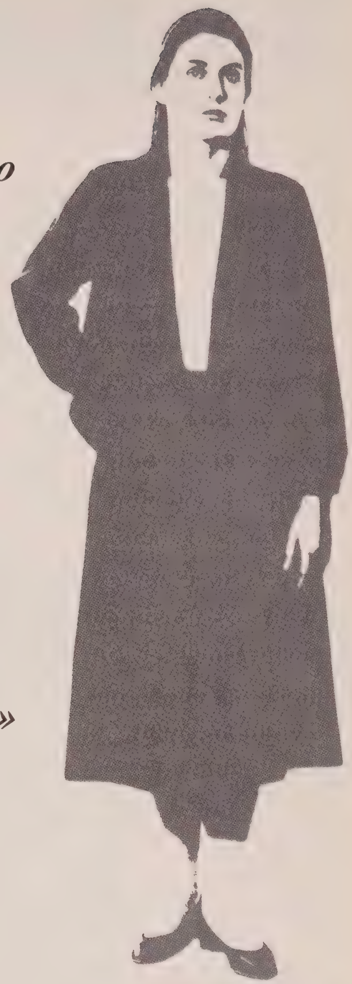
Earnings gap between sexes: here to stay?

Earnings differences between men and women are probably here to stay, despite legislative attempts to close the gap. Family responsibilities, socialization, and the educational system all combine to make women choose different careers than men and to work for fewer years.

In a background paper prepared for the Economic Council's study of women in the economy, Judith A. Alexander examines wage differences, equal work and work of equal value legislation, and affirmative action programs.

Past research indicates that the earnings gap between men and women is real and that, despite some progress in the past decade, the differences are still significant. In 1980, women's earnings were 72 per cent of men's (after adjusting for the number of hours worked), compared with 67 per cent in 1970 (based on data from the 1981 census). On the other hand, women are slowly but surely narrowing the wage gap.

« . . . laws pertaining to equal pay for equal work and to equal pay for work of equal value will not change the pattern that we see in the statistics on lifetime incomes for men and women. Women, because of their family responsibilities, will continue to receive lower lifetime incomes. »



Equal pay laws

Legislation on equal pay for equal work and equal pay for work of equal value has existed, both federally and provincially, for a number of years. However, the impact has been minimal, according to Alexander. She notes that many researchers wonder whether the laws end up hurting those they were designed to help.

The fear is that women might not be hired for jobs they would otherwise have obtained at lower wages if employers feel threatened by the legislation. There are also questions about how equal work and equal value are determined. Alexander says the laws would have wider applicability if they dealt with "similar" as opposed to "equal" work.

Another approach is through affirmative action programs, where employers are encouraged to place certain groups (in this case, women) in occupations where they have been underrepresented in the past. Alexander says this approach is now espoused because "the current equal work and work of equal value legislation do not appear to be removing the historical differences between men's and women's compensation and activities in the labour market."

Reasons for gap

Alexander finds that the different upbringing, socialization, and schooling of women affect their career choices, work positions, and, consequently, incomes. At the root of this is a female's ability to bear children. Women leave jobs to have children and so have different expectations about work than men and a different commitment to the labour force.

These forces cannot be dealt with through legislation. In fact, they lead to other problems, including pension rights, maternity leave, and unemployment insurance. She says it is unreasonable to expect the labour market to bear the burden of adjustment for actions that take place outside that market.

Schools are one area where some changes could be initiated. Alexander supports the idea of setting up affirmative action programs for young girls in science, an occupational area where females are conspicuous by their absence. Tests have found that girls, on average, do as well as boys in science courses, once they are enrolled in them.

Another area where action is needed is on paid maternity leave. Because of child bearing, women need time off from the labour market. The employer bears some costs for it and, says Alexander, may therefore be reluctant to hire females. She advocates funding of paid maternity leave or, better still, parental leave, at the national level so that employers will be more open to the hiring of women.

"Equal-Pay-for-Equal-Work Legislation in Canada," by Judith A. Alexander. Discussion Paper No. 252.

S·P·E·A·K·I·N·G · O·U·T

Does our tax system need an overhaul?

The Economic Council of Canada has just embarked on a major study to find answers to that question. The Council is focusing on taxation of capital income.

Project director David Sewell says it will deal with "all aspects of the tax system that affect capital accumulation" or savings and investment. That will involve studying principally the personal and corporate income taxes, the property tax, and resource taxation.

The project group is expected to report its findings in late 1985 or early 1986.

Au Courant recently interviewed Sewell to find out more about the taxation project.

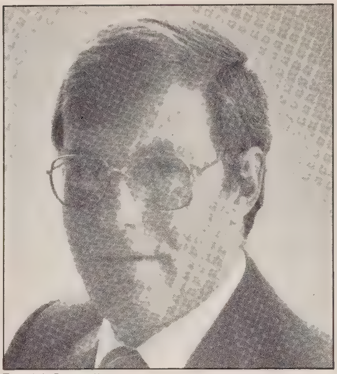
***Au Courant:** Why is the Council interested in studying the tax system?*

Sewell: Largely because we're interested in efficiency in the allocation of resources, the distribution of income and the rate of economic growth.

***Au Courant:** Why do you feel a study of taxation of capital income is needed at this time?*

Sewell: Principally because it's been 20 years since the last comprehensive look at the Canadian tax system was undertaken by the internationally renowned Royal Commission on Taxation, the Carter Commission. A lot of things have changed since then that would have influenced the Commission's recommendations – particularly with respect to the taxation of income from capital.

For instance, rapid inflation is a more persistent policy problem than it was in the mid-1960s. The international environment also has changed. Finally, the views of many leading public finance economists on the most desirable base for taxation have altered from the days of the Carter Commission, which represented the high water mark for support for an income-tax-based system.


David Sewell

***Au Courant:** What kind of tax base is often preferred today?*

Sewell: The extent of professional economic opinion in favour of a consumption tax – which can be defined in very simple terms as an income tax with a deduction for savings – is now so striking that it has been referred to as the "new orthodoxy." Official reports in the United States and the United Kingdom have also recommended adoption of a consumption tax.

***Au Courant:** Why is there such an interest in the consumption tax?*

Sewell: Largely for efficiency reasons. At the time of the Carter Commission, it was believed that the efficiency losses from taxation were small. One recent study for the U.S. has concluded, however, that the replacement of their present tax system with one based on consumption would increase output by as much as 18 per cent and add about six years income to the lifetime earnings of the representative consumer!

***Au Courant:** Is the consumption tax going to be the basis of your study?*

Sewell: Not necessarily. I often wonder whether the subject of choosing an appropriate tax base has been overemphasized. Some recent inquiries at the international level suggest that one of the principal problems in capital taxation is its lack of uniformity. There is enormous variation in tax rates on new investment, depending on the sources and uses of funds.

***Au Courant:** Does all of this imply a reduced emphasis on equity?*

Sewell: Not at all, but it causes a shift in emphasis. Recognizing that taxpayers have ups and downs over their lifetime, many economists now think that lifetime command over resources rather than annual after-tax income is the relevant factor in judging the equity of the tax system. The former is much more equally distributed than the latter.

***Au Courant:** What effect has inflation had on the taxation of capital income?*

Sewell: It causes enormous problems for an income-tax-based system. There's no doubt that rapid inflation produces real distortions in the pattern of investment and inequities as well.

***Au Courant:** Has the interaction of inflation and the tax system adversely affected business income and investment?*

Sewell: Early and influential analyses in the U.S. and Canada suggested that the inflation of the 1970s increased effective corporate tax rates substantially. More recent enquiries for Canada and other countries suggest that inflation has not raised effective tax rates on most *new* investment. This shows that you have to distinguish between the effects of inflation and taxation on "old" and "new" capital.

***Au Courant:** What are the changes in foreign circumstances that might warrant re-examination of our capital taxes?*

Sewell: The Canadian position on many international tax issues has traditionally been based on the assumption that ours is a small, capital-importing country, but this

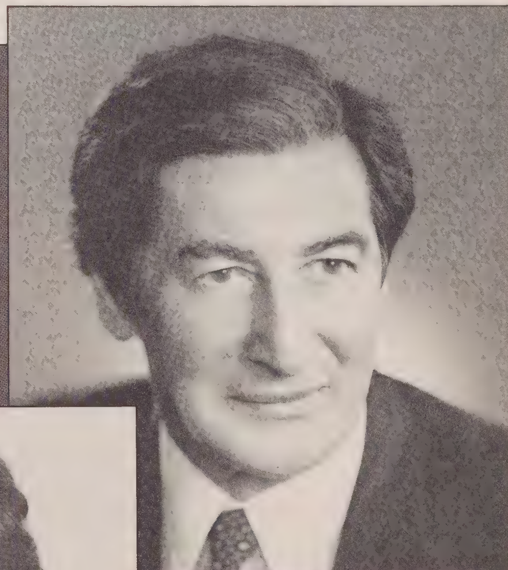
position is changing. Over the past decade or so, Canada has become a net exporter of capital.

There are also particular developments in the U.S. which are of special importance to Canada. The tradition has been that a government does not look beyond its boundaries in calculating corporate taxable income. But 13 U.S. states have recently broken with this tradition and tax multinationals on the basis of their *worldwide* income. It is also worth noting that taxation of new corporate investment in the U.S. has decreased in recent years to about one-third of its 1953 level and there is active discussion of further changes in capital taxation.

New members appointed to the Economic Council of Canada

Diane Bellemare

Diane Bellemare is director of the Masters program in economics at the University of Quebec in Montreal. An expert in the labour field, she has worked as consultant to the Canadian Railway Labour Association, the Association des Syndicats du Rail, and the Canadian Advisory Council on the Status of Women.



James F. Kay

James F. Kay is chairman and director of Dylex Ltd., Hatleigh Corporation, Kesmark Ltd., and Foodex Inc.; chairman of North Canadian Oils Ltd.; president of Strathearn House Group Ltd.; and director of Gibraltar Pari-Mutuel Inc., Canada-Israel Development Ltd., and Noma Industries Ltd.

Margaret Cornish-Kehoe

Margaret Cornish-Kehoe, a graduate of the London School of Economics, is currently manager of Special Banking Services with the International Division of the Bank of Nova Scotia. Prior to that appointment, she worked for the Department of External Affairs, both in Canada and abroad.

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WORKING TO IMPROVE CANADA'S POLICY PERFORMANCE

That has been the chief concern of the Economic Council of Canada since its creation as an independent advisory body in 1963.

Over the past two decades, the Council has focused on public policy issues of key importance to Canadians – including economic growth, the role of new technology, the impact of government regulation and the changing job market, to name only a few.

The Council pursues its goal of improving Canada's economic performance in three ways:

Consultation

Members of the Council, representing a wide cross-section of Canadian society, meet regularly with governments and groups to study, analyse, and make recommendations on significant economic issues.

Research

An expert staff originates research and provides background information on a variety of topics, with particular stress on the medium- and longer-term problems of the Canadian economy.

Information

The need for better information on economic issues has led the Council to place strong emphasis on its contact with the public, through the use of topical publications, speeches, conferences, workshops and media relations.

Economic Council of Canada
P.O. Box 527
Ottawa, Ontario
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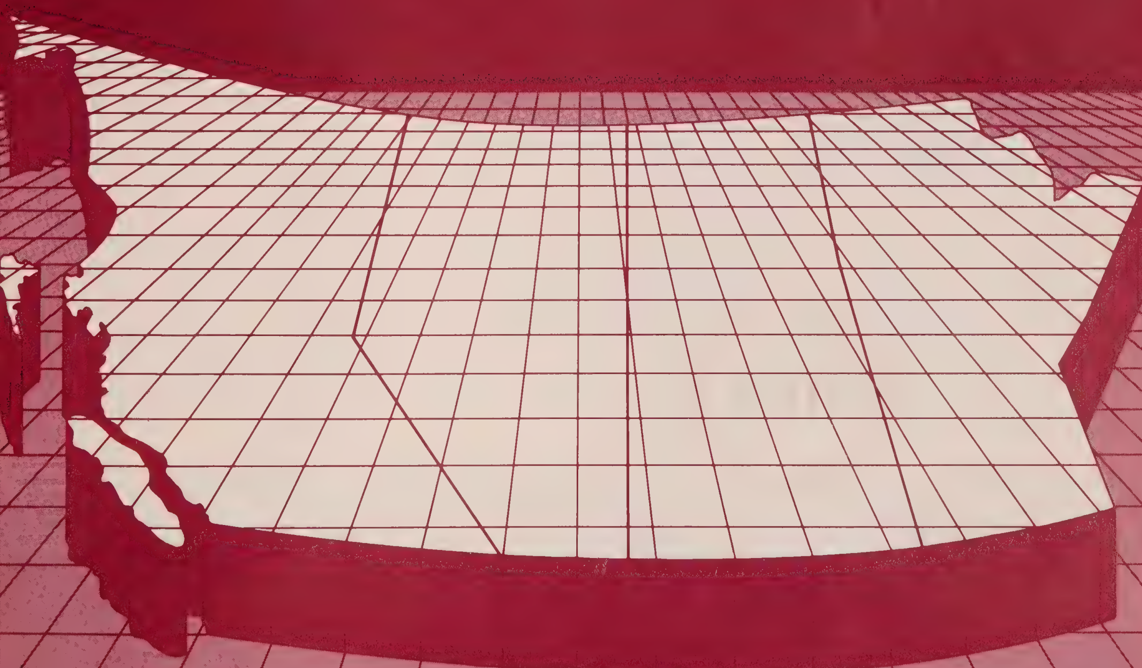
Economic Council of Canada

Volume 5, No. 2, 1984

au courant

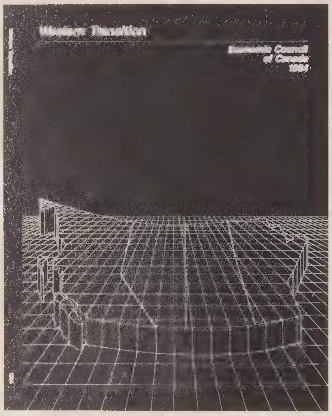
issue on western Canada



PUBLICATIONS

New Council Report

Western Transition (EC22-123/1984E; $9.95 in Canada; $11.95 elsewhere).



What lies in store for Canada's four western provinces, given an anticipated slowdown in the growth of natural resources? The Council takes a close look at economic prospects for the West, and outlines the policies required to achieve future prosperity.

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 263 "Imports, Secondary Output, Price-Cost Margins and Measures of Concentration: Evidence for Canada, 1979," *by J. Baldwin, P. Gorecki and J. McVey*.

No. 264 "The Saskatchewan Potash Industry: Alternative Strategies for Future Development," *by D. Anderson*.

No. 265 "La législation favorisant une rémunération égale pour un travail égal au Canada," *by J. A. Alexander* (available in English as Discussion Paper No. 252).

No. 266 "L'instabilité des revenus agricoles dans les Prairies," *by J. Jobin*.

No. 267 "Designing a Nondistortionary Personal Tax System for Canada," *by M. J. Daly and F. Naqib*.

No. 268 "Blueprints and Pathways: The Shifting Foundations of Tax Reform," *by W. Hettich and S. Winer*.

Annual Report

The Economic Council's *Annual Report* for 1983-84 is now available. It includes a message from chairman David Slater, and details on Council activities and research projects currently under way. For a free copy, write to the Communications Division (address below).

Reprint

The following Council report has been reprinted, and can be ordered according to information below:

Canadian Television Broadcasting: Structure, Performance and Regulation, *by R. E. Babe* (EC22-63/1979E; $5.00 in Canada, $6.00 elsewhere).

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Canada, K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion Papers, *Au Courant*, and the *Annual Report* are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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Volume 5, No. 2, 1984

au courant

WESTERN TRANSITION

Highlights from the Council's new report on the economic outlook for Canada's four western provinces:

Conference on the West

A conference on the outlook for the western Canadian economy will be held at the University of Alberta on Thursday, November 8th., and Friday, November 9th., 1984. Sponsored by the University's economics department, the conference will bring together participants from universities, research institutions, private industry and provincial governments to discuss the issues raised by the Economic Council report, *Western Transition*.

For further information, contact
Professor Melville McMillan
Western Economic Transition Conference
Department of Economics
University of Alberta
Edmonton, Alta. T6G 2H4
(tel. [403] 432-3306/3406).

Au Courant est également disponible en français.

The major reports featured in *Au Courant* reflect the viewpoint of the Economic Council.

Research studies, discussion papers, and other background papers are prepared for the use of the Council by members of its staff and others. The findings of these reports are the personal responsibility of the authors. Neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

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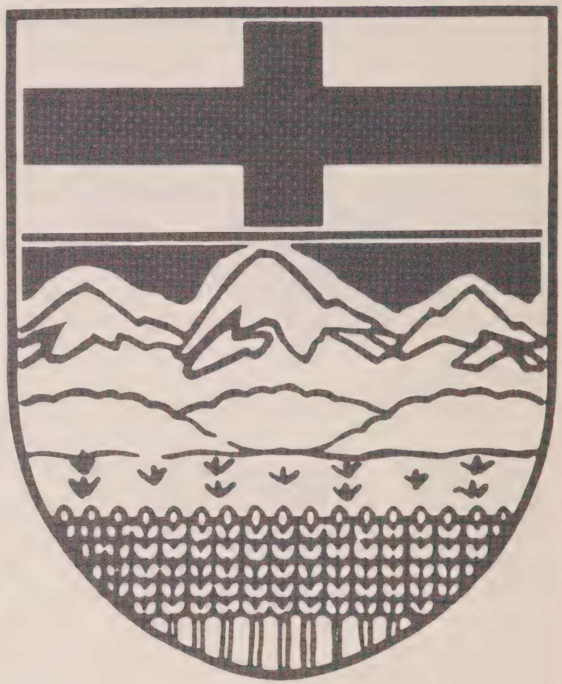
WESTERN TRANSITION



"Western success requires only the absence of catastrophe, not fortuitous bonanzas"

WESTERN TRANSITION

The Economic Council is optimistic that a solid economic performance for the four western provinces is possible in the years ahead.

Future economic growth will depend less on natural resources than in the past and more on service industries, according to the Council's new report on the West. It will depend as well on major adjustments of policies for resource, manufacturing and service industries, mainly at the provincial level of government. Although the Council's outlook for growth is optimistic, it is unlikely that the "boom" years of the 1960s and 1970s will soon be repeated.

No single factor will ensure prosperity. What is needed, according to the report, is close attention to the economic

evolution already under way in the four western provinces. Historically, natural resources have provided the main economic impetus in the West – wheat, forestry, fishing and, more recently, oil and gas, and coal and minerals. Resources will still be important in the future, but will no longer be as central to prosperity as they once were. A dynamic and efficient service sector will also play a particular role. As a result of this transition, the future will likely hold more stable and solid prosperity.

The Council's view is "that the most important problem in the West is the lack of dependability of growth or the perception of such a lack." Other problems exist, but are less pressing, according to extensive analysis of various economic indicators, including the level, growth, and stability of incomes, job opportunities, and unemployment levels.

While income levels in the western provinces are somewhat above the national average, there are substantial variations among the provinces. Alberta and British Columbia are well above the average; Manitoba is a little below it; and Saskatchewan is about the same as the national average (although this is a recent development).

The Council's report looks at the western provincial economies and then outlines the policies needed to justify its optimism about the future of the West.

Many Canadians view the West as an economic "winner", but there are problems. The Council found that "perhaps the greatest problem is the Westerners' perpetual concern about their role as 'hewers of wood and drawers of water.' " That makes for a very unstable prosperity, heavily dependent year by year on economic forces largely beyond the control of the West. Worse yet, many worry that their resource-based economy will self-destruct as the resources are depleted. However, others believe – and just as firmly – that there can be a natural progression from a resource-based system towards a more diversified and stable economic structure.

There are problems unique to the individual provinces, as well as a perceived lack of variety of job choice, a feeling that the best jobs are seldom available in the West. As well, there is concern about transportation policies, existing trade and tariff practices, and federal spending and revenue policies.

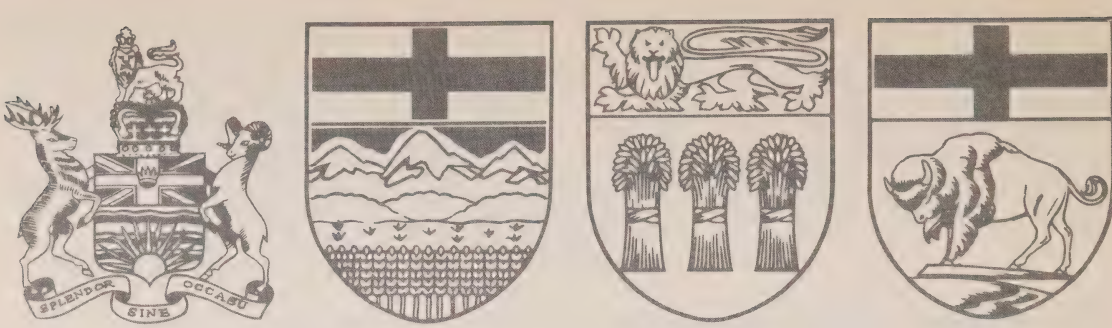
Growth rates of per capita income received over the past 50 years have varied slightly, with Saskatchewan doing better than the Canadian average, and British Columbia worse. As a result, provincial income levels have been gradually converging.

Compared with national levels, unemployment rates on the Prairies are usually low. In British Columbia, however, the rate is usually higher than the national average.

Another belief generally held in the West is that "good" jobs (those associated with high income, educational attainment, and social status) are to be found only in central Canada. Research, however, does not bear this out.

The so-called "good" jobs are not restricted solely to central Canada – they are available throughout the country in nearly equal proportions. Occupational patterns and opportunities show very little overall variation across Canada.

While long-term insecurity of growth is the most signifi-



cant concern, shorter-term instability is also seen in the West as an undesirable feature of their economies. To check how serious a matter income instability is, an analysis was done comparing income trends in the West with actual income for the two time periods 1926-45 and 1946-81.

The results were surprising. Income, as a whole, was found to be slightly more – not less – stable than the national average. This was so, despite the high instability of incomes from farming. There was a drastic drop in western income during the Depression, but an equally drastic increase during the Second World War. In the last 36 years, the West has gained far greater income stability. In fact, incomes in the western provinces as a whole are now no more unstable than those in Ontario, due mostly to the growing importance of the service sector and the more stable farm incomes there.

Whether the West gains or loses from being part of Confederation is a perennial question in the West. The Council felt that, although an overall decision on this issue was not possible, detailed investigation of some special aspects of it was most illuminating. The topics covered:

- The argument that Westerners pay the costs of tariff policy by having to pay more for goods imported from abroad or from elsewhere in Canada, while the benefits (which are seen as mainly manufacturing jobs) go to central Canada.
- A number of long-standing grievances related to transportation policy (this is dealt with in more detail on subsequent pages). Rate structures are said to discriminate against western producers and shippers to such an extent that diversification from primary resource production to processing is discouraged.
- Concerns that the federal government receives more from the West in tax revenues and royalties than it spends on the area. And, finally, there is a perception that public and private decision makers are unresponsive to the West because the seats of power are located, in the main, in central Canada.

Population growth is sometimes used as a benchmark for economic health. Surprisingly, the data show that the West's share of the total Canadian population has remained virtually the same for 60 years. Just over one in four Canadians is a Westerner, and this has been so for over half a century.

However, the general stability of the West's population share conceals major differences among the provinces. Alberta and British Columbia have shown large increases in both their total population and their share of the Canadian total in recent years. On the other hand, Saskatchewan and Manitoba have shown only slight gains. There has been a westward shift of population within the West, rather than from eastern provinces to western ones.

The structure of the western economies is different from that in central Canadian economies. Yet despite the West's specialization in resources and central Canada's in manufacturing, the dominant activity in both regions is in services. Two out of every three employed people are in service industries. That means nearly two-thirds of all jobs in the West and in central Canada are in the service sector.

In every province except British Columbia, the service sector has shown enormous growth during the last 20 years. At the same time, there has been a very marked contraction in the relative importance of the natural resource sector. It is now about half as important as it was 20 years ago, again with British Columbia as the lone exception. However, even in this province there has been a significant relative decline. By 1981, the West was no more dependent on resources for employment than was central Canada in 1961.

The manufacturing gap between the Prairies and central Canada has narrowed quite considerably. It is not due so much to the growth of manufacturing in the Prairies as to its relative decline in importance in central Canada.

The western economies have become less dependent on external trade in recent years. The relative number of jobs in industries that trade internationally or are subject to competition from imports has dropped significantly. So, too, has the degree of sensitivity to the vagaries of international markets. Analysis shows that the instability of export receipts has probably been overblown in the West – it is not a significantly greater problem here than in the rest of Canada.

The kind of exports typical of the West (wheat, oil, and gas, etc.) have not made the western economies any more unstable than the rest of the country. That, according to the Council's report, "is a very surprising result."

However, there may be more instability in the years ahead, especially in agriculture. It is also possible that "counter trade" (partial or complete barter where the exporter must agree to accept full or partial payment in goods produced by the importer) could increase and lead to more instability.

It is clear that the western economies have done well over the years. Whether the prosperity can be maintained or will falter is the key question.

The remainder of *Au Courant* is devoted to looking at the issues involved in greater detail.

Transportation: the way ahead

Traditional notions notwithstanding, transportation problems need not pose any threat to western development. The Economic Council in fact foresees an open road ahead, provided that prompt action is taken to remove a few potentially serious obstacles.

The railway

While water, air, and particularly road transportation today play a significant role in the economies of the four western provinces, the railway has been the system most closely identified with their development from the outset, when the building of the Canadian Pacific opened up settlement and facilitated trade between West and East. Even now, while it is no longer the exclusive — or even perhaps the dominant — form of transport (given the formidable competition from trucking), the railway remains relatively more important in the West than in the East, for reasons of demography, agricultural policy, location of natural resources, and absence of waterways. Its strong position has made it the target of a list of complaints throughout its history, some persisting to the present day. Two longstanding areas of contention have been the artificially low freight rate for statutory grain (the "Crow rate"), and the purportedly high rates charged for transporting manufactured products.

The Crow rate

In 1897, the federal government and Canadian Pacific concluded an agreement whereby the freight rate for the eastward shipment of grain and flour was set at 20 cents per hundred pounds. With the exception of some price fluctuations early in this century, that rate remained in effect until 1983, at high cost to the railroads. Calculations adopted by the federal government in its legislation to reform the Crow indicate that the difference between a cost-covering rate and the Crow rate amounted to $644 million for the 1981-82 crop year.

In 1983, on the basis of recommendations put forward by the Gilson Commission, the federal government passed Bill C-155, a milestone in Canadian grain transport. Essentially this Act decrees that freight rates should remain significantly lower for the transportation of "old grain" (i.e., for grain in the amounts produced in the 1981-82 crop year, as opposed to subsequent new production levels), but that the railways should receive a direct federal government subsidy (the so-called "Crow Benefit") as compensation for losses thereby incurred. The Act also contains a "safety net" provision – to protect farmers from depressed world grain prices and high


Canadian Pacific

Opening up the West

interest rates – to the effect that the grainshippers' share of the freight rate should not exceed 4 per cent of the 1984 grain price, with the limit gradually increasing to 10 per cent in 1988 and thereafter.

In many respects, the Act succeeds in achieving a necessary reform of the old Crow regime, says the Council report. In particular, it should greatly ease the problems of financing capacity expansion in the West. But it also retains some undesirable features. It encourages the growing of "statutory" grain (that is, crops so classified for purposes of the Crow rate) and also the use of railways over trucks. Furthermore, by subsidizing transportation, and thus allowing Prairie grain prices to remain high at the farm gate (farmers charge the world price minus transportation costs), the Act has an adverse impact on Prairie livestock owners.

Although the Council realizes that the payment issue is an extremely complex one, which is now under study by a parliamentary committee, it believes that, on balance, the evidence favours serious reconsideration of the present method. Consequently, it recommends that, in the event the Committee decides to reassess the situation, it include in its investigation the possibility of paying the Crow benefit directly to the farmers concerned, and allowing the railroads to charge a correspondingly appropriate freight rate (with due allowance for the "safety net" provision).

Shipping of manufactured goods

Westerners have long resented certain other aspects of the freight rate system. One recurring complaint stems from the conviction that the railways have used their monopoly position to keep freight rates high on manufactured goods coming from the East, and so are to blame for a higher cost of living on the Prairies. While the Council agrees that rates are higher on shipments moving from east to west, it ascribes this to natural economic and geographic conditions rather than to unjustifiable practices on the part of the railroads.

Another criticism has it that the development of Prairie manufacturing has been hampered in several ways, especially by the imposition of higher freight rates for manufactured products than for raw materials going from western to central Canadian provinces. In response to this concern, the Alberta government suggested instituting an "Equitable Pricing Policy" (EPP), basing freight rates exclusively on distance, irrespective of the commodity being transported. A study to investigate the impact of this proposal on 40 manufacturing industries important to the West found it would strengthen the West's competitive position in 25 industries, weaken it in 14, and leave it unchanged in one. Overall, the EPP would reduce relevant transport costs by 40.1 per cent in the East, and by 40.5 per cent in the West. In other words, the advantage to the West would be minuscule.

The EPP would also require either a massive subsidy from taxpayers (rough calculations show this would have amounted to about $990 million in 1980) or a proportional increase in all distance-based rates sufficient to cover full costs. A major problem with either solution is that costs would become covered automatically, so that management's incentive to hold them down would be very considerably weakened.

Given the drawbacks of the proposed policy and its negligible effect on the competitive position of western manufacturing, the Council believes that the present freedom of freight rate setting should be retained. If diversification or stimulation of western manufacturing is considered to be in the national interest, the Council adds, that goal should be achieved by methods other than manipulation of freight rates.

National Film Board of Canada

Tough competition for the railroads

The outlook for natural resources

Westerners are understandably uneasy about putting all their eggs in the natural resource basket, arguing that such excessive specialization makes provincial economies extremely vulnerable to uncontrollable changes in production and markets.

The Economic Council believes the West is becoming less dependent on its resource industries, but it is aware, too, that, since they will continue to have an important bearing on western development in coming years, their prospects for growth remain important. The following pages feature the outlook for the natural resource sectors, and the policies required to keep them flourishing.

The forestry

"We are recklessly destroying the timber of Canada, and there is scarcely a possibility of replacing it," lamented Sir John A. Macdonald over 100 years ago.

That concern has been expressed repeatedly by succeeding generations of Canadians – yet the forest industry has persevered, and even flourished over time. However, current fears that the West can no longer count on economic growth from that sector shouldn't be dismissed lightly, says the Economic Council, particularly given recent predictions of impending timber shortages.

Nevertheless, the Council is cautiously optimistic about the future for the forestry, provided that provincial governments undertake some fairly radical changes in management policy.

The Council selected the logging industry as the major focus of its analysis of British Columbia, partly because of its economic importance to the province, and partly, too, because its basic structure provides the key to achieving efficient operation in the forestry at large.

Forest products constitute the biggest single industry in British Columbia, accounting for 13.3 per cent of provincial gross domestic product, and 10 per cent of employment in 1980. The provincial economy is enormously dependent on this sector's continuing prosperity – but the outlook is not encouraging. Recent research showing it won't be easy to maintain, let alone expand, current harvesting levels, led the provincial government to freeze harvest quotas. This could create problems when world demand for forest products, sluggish from the recession, eventually picks up again. Slower growth or possibly even no growth in the forest sector in British Columbia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B.C. logging: new policies needed

could cause per capita incomes to grow more slowly than was usual during the postwar period, even if world demand for forest products fully recovers. That would keep unemployment above normal levels, and inhibit immigration for decades.

But this gloomy scenario is not inevi-

table, says the Council, primarily because the provincial government has the power to solve the problem by making some key administrative changes.

The British Columbia government plays the dual role of regulator and owner of the industry. As regulator, it determines how many trees can be cut down (the "allowable annual cut"), and the appropriate harvesting age or "rotation period." In addition, it collects resource rents or revenues in the form of royalties or "stumpage."

Three fundamental changes in the government's regulatory policies could give the forestry the boost it needs, in the Council's view. To begin with, rotation periods should be shortened, allowing both harvesting and replanting to take place more often. At present, rotation periods are structured to ensure that the maximum amount of wood is harvested, which does not reflect the influence of timber prices, discount rates, and harvesting costs. Provincial coffers are considerably emptier as a result, with potential income from current harvestable timber forgone, and that from future harvests delayed.

Ideally, provincial residents should benefit as much as possible from the forestry, says the Council. Hence, it recommends that much greater emphasis be placed on economic and far less on physical criteria, when choosing rotation periods for second-growth timber, provided that this can be done with full provision for the protection of the environment.

Secondly, again with the welfare of society in mind, the Council recommends harvesting the stock of mature timber at a faster rate than present policies permit, as soon as and wherever market conditions make it profitable to do so.

Evidence shows that huge quantities of this timber occupy some of the most productive sites in the province. By failing to harvest and replant these sites, the province forgoes millions of dollars in annual revenue, and in some cases damages the forest itself. Ironically, the Council comments, "...the main fault may have been in not cutting the timber rapidly enough rather than too rapidly."

As a third key change in policy, the Council recommends that more importance be attached to "intensive forest management" – the term used to describe treatments to improve forest productivity, such as forest protection, backlog reforestation and research aimed at producing genetically superior trees. Practices with a proven success rate should be set in motion, says the Council, using provincial government funds specially earmarked for that purpose.

Agriculture

Through good times and bad, agriculture has been closely tied to western development, particularly in the Prairie provinces. Today, the western agricultural industry employs close to 300,000 people, accounts for almost 7 per cent of total western output, and is a major exporter. So the outlook for this sector has significant bearing on western fortunes in the coming years.

But that future appears complex and difficult to judge, says the Economic Council. To appreciate what might be in store, the Council undertook a thorough investigation of the grains trade and of livestock production – the two areas accounting for the lion's share of the industry.

Grains

The Council cautions that adverse conditions lie ahead, not in any disaster sense, but relative to the uncharacteristically favourable 1970s. Real prices for grains are expected to resume their historic drift downwards. Further, both prices and output are likely to become increasingly volatile.


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Improving the outlook for Prairie wheat

Measures must be taken to improve this outlook, says the Council, recommending two related but distinct courses of action: one directed at cushioning the industry from the volatility of world markets, and the other at encouraging faster growth through productivity increases.

Since international grains prices are extremely important to Prairie farmers, and a major cause of income instabil-

ity, the Council recommends that Canada redouble its efforts to seek an International Wheat Agreement providing better regulation of the grains trade. Canada should also be trying to diversify its markets through bilateral negotiation and, where necessary, counter trade agreements.

In addition, farmers should be compensated more adequately for the consequences of instability, the Council says. So it recommends strengthening the Western Grains Stabilization Program, a support program for farmers whenever their incomes dip below normal.

On the productivity front, policies should be aimed at promoting the researching and adoption of domestic and international technological advances. Since the present regulatory framework can occasionally impede this process, the Council recommends that selective deregulation and regulatory amendments be considered, especially with respect to the Canadian Wheat Board and the Canadian Grain Commission.

Livestock and meat processing

This industry, a strong contributor to western economic growth between 1962 and 1972, has fallen on tougher times over the past decade. But the Council believes it will probably recover from this setback if it can rise to the challenge of increasing its export penetration in the United States (particularly in the expanding California beef market) and in Japan, where quality beef and pork markets offer attractive possibilities.

To ensure that such initiatives are successful, the industry will need a great deal more information on the relevant export markets, says the Council. Consequently, it advocates the initiation of product-specific research on the California market. As well, it recommends that governments, product-marketing agencies, and if possible, the private sector, work towards establishing contacts and becoming familiar with the Japanese market, where operating methods and requirements differ markedly from Canada's. Finally, the Council advises a thorough-going examination and possible revision of the structure of the industry. It is set up now as a series of separate units, whereas a more integrated system might lessen the risk to firms interested in exploiting opportunities in Japan.

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Problems in the oil patch

Oil and gas

The oil patch is not what it was, a fact with significant repercussions for Alberta.

Council analysis of the oil and natural gas sector leads to the unavoidable conclusion that "Alberta is close to a decisive point in its economic history." The province must inevitably move away from heavy dependence on its major resource during the next decade or two. Fortunately, the important role played nowadays by the non-resource industries there (notably the service sector) will make that transition easier than might have been expected (see page 17).

Because it plans to publish an exhaustive report on energy issues later this year, the Council has restricted its attention in this report to the effect of oil and gas production on the economic growth of the western provinces (primarily Alberta).

The oil and natural gas industry has had a strong influence on Alberta's economic well-being, accounting for strong growth and low unemployment over the 1961-81 period, particularly during the 1970s. However, the boom years came to an end, and the Council's

prognosis for the future indicates they are unlikely to return.

The future of the petroleum industry is plagued by uncertainties, both international and domestic in nature. Conventional oil production is expected to decline by about 30 per cent by the year 2000. Even using the most optimistic assumptions possible, Council projections indicate that the total expected production of conventional oil by the end of the century will not exceed that of the early 1980s.

The news is somewhat better for output of natural gas. On balance, the Council assumes a 60 per cent increase in production between 1983 and 1991, and a maintenance of the 1991 level to at least the year 2000.

This increase in growth implies a very substantial increase in exports. At the moment, though, the export price set by the federal government often renders Canadian gas uncompetitive with other suppliers in the all-important U.S. market. A bureaucratic mechanism of uniform price setting does not and cannot take advantage of the opportunities of rapidly changing markets and prices, the Council says. Consequently, the Council supports recent initiatives in this area, and recommends that both government and industry continue to seek out more flexible means of realizing the economic potential from natural gas exports.

Potash, uranium and coal

The potash, uranium, and coal industries won't be able to maintain their truly spectacular performance of the past decade, but their future prospects look reasonably good. Furthermore, says the Economic Council, certain measures can be taken to speed up their growth rate.

Potash (an essential constituent of crop fertilizers) and uranium abound in Saskatchewan, and coal in Saskatchewan, Alberta, and British Columbia. Despite the slowdown in growth predicted in all three industries, the Council believes they will continue to do quite well in the future, and better still if policy makers focus on two key concerns: the need for both a judicious handling of the issue of market power, and an improved efficiency in resource taxation and domestic pricing.

Market power

The issue of market power is an important one for the three industries –

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Potash needs careful management

on the supply side for potash and uranium, and on the demand side for coal.

Saskatchewan has substantial market power in North America, since it is by far the biggest supplier of potash there. While exercising that power to the full would benefit the citizens of Saskatchewan – by keeping prices and therefore provincial revenues high – it would be costly to the nation as a whole in political and international terms (since U.S. importers and producers would be worse off). After careful consideration of this issue, the Council decided to advise against any action "inconsistent with the spirit of Canada's commitment to both freer world trade, and the canons of good international behaviour." On the other hand, it warns policy makers against going to the opposite extreme, by encouraging the production of so much potash that prices drop beyond the point where full long-run production costs can be recovered. In that context, policies to stimulate rapid industry expansion in the province – which have been contemplated on occasion – would be risky, the Council says.

A fairly similar situation exists in the uranium industry, and again the Council suggests steering a careful course between extremes. The coal industry, on the other hand, faces problems on the demand side, in its heavy dependence on the Japanese export market. While little can be done to change that situation, says the Council, more of the risk involved should fall on the private sector, which has the greatest incentive to recognize it. Hence, the Council recommends that industry bear a substantial part of the costs of providing investments for new developments.

Policies to improve efficiency

The structure of resource taxation can at times impose heavy burdens on an industry, the Council observes. Resource taxes calculated as a percentage of revenue may mean that taxes are payable even if no profits are earned – the case for coal operations in British Columbia and Alberta. On the other hand, a tax based on profits can introduce new problems: if firms are allowed to offset profits on one venture by losses on another, for example, governments lose revenues, and new operations can become too large. To avoid these and other distortions, the Council recommends that resource tax (or royalty) systems be designed to be as neutral as possible, with well-designed profit taxes employed whenever feasible.

The Council also recommends calling a halt to the western practice of subsidizing its domestic consumers of electricity by providing power stations with coal at cost.

Finally, the Council recommends that the federal government recognize the benefits to Saskatchewan of exporting unprocessed uranium, whenever it does not replace refined exports from Ontario or other provinces.

Fishery reform a must

Reform of the British Columbia fishery is an absolute must. Countless studies of Canada's troubled fishing industry agree on the need for wholesale revision, as much on the West Coast as on the East.

The Council has two recommendations to make in this area. The first deals with the well-recognised problem of how best to prevent Pacific fishing stock from becoming dangerously depleted. A Royal Commission on the Pacific Fishery has been the most recent to put forward proposals in this regard. The Council agrees with its principal ideas on how to limit the catch, and recommends rapid adoption of its recommendation for a quota system for all fish other than salmon and roe herring – which would be regulated by revised controls on fishing inputs.

The Council's second recommendation concerns the best method of achieving speedy reform. At present, it notes, British Columbians have little incentive to change the industry, since the federal government as responsible authority would reap the lion's share of the gains. Reform is more likely, says the Council, if those directly affected have a stronger financial interest in the outcome. So it recommends that ways be found to provide this group with a share of any federal revenues obtained through industry rationalization.

Water won't dampen prospects

Water shortages will dampen western growth only slightly in coming years, contrary to popular notions. Moreover, what problems there are can be readily solved by the use of intelligent water management policies, says the Economic Council.

While the West is water-rich overall, certain areas face current or prospective shortages, either through over-consumption (the agricultural basins of Milk River, South Saskatchewan, and Red Assiniboine) or pollution (the industrial North Saskatchewan basin).

In these problem areas, it is no longer economically efficient to allow water to be free for the asking, the Council says. Water charges, which now tend to cover only distribution costs, will have to be raised, however politically difficult that might be. The Council suggests using a "block pricing" system, whereby water prices would rise in a progressive fashion.

The Council also finds the current licencing system of water use regulation to be "cumbersome and inflexible." In the interests of greater efficiency, it suggests modifying that approach to allow holders of water rights to sell their rights to other users, subject to the veto of provincial management authorities.

Finally, the Council recommends continued government vigilance to protect the quality of water bodies for such uses as recreation, fish and wildlife habitat, and so forth. That could require the imposition of effluent charges on industries in order to keep pollution under control.

Service sector: engine for growth

Service industries are the largest and fastest-growing part of both the national and provincial economies. Nearly two-thirds of all jobs in Canada are in this sector.

A vast array of industries and activities are classified as services. They fall into five major categories: (1) transportation, communications, and utilities, (2) wholesale and retail trade, (3) finance, insurance, and real estate industries, (4) public administration and defence, and (5) community, business, and personal services.

It is interesting to look at the distribution of employment in the western provinces in various industries. As can be seen in the accompanying chart, employment in the service industries far exceeds that in natural resources or other industries. This parallels the employment structure of the rest of Canada.

Over the last 20 years, services have accounted for about three-quarters of all new jobs in the West, as elsewhere. The large – and growing – size of this sector "puts a heavy premium on seeking to improve efficiency in it, if living standard improvements are to continue."

Between 1971 and 1981, service sector employment grew in all four western provinces. Agricultural employment decreased in all but British Columbia.

Two industries stand out as the major sources of job growth in the service sector: community, business, and personal services as well as trade (see chart). The main areas where new jobs appeared (1971 to 1981) were health and welfare services, plus accommodation and food services. Services to business and education were also important. In the trade-related jobs, most were in retail rather than wholesale firms.

The dramatic growth of the service sector has not been confined to the West. It is a national – and indeed an international – phenomenon, observable in the rest of Canada, in the United States, and much of Europe. The West is therefore participating in a major shift in economic structure to the same degree and in the same way as most of the advanced economies. This parallel behaviour "is evidence of at least the possibility that the recent evolution of the West is not as closely linked to the fortunes of the natural resource industries as has been traditionally believed."

Because service sector firms have different characteristics than either manufacturing or resource industries, the shift has significant implications for economic policies. Services tend to be overlooked by policy makers who concentrate their efforts mostly on goods-producing industries.

Productivity improvements in services directly help living standards grow, and the indirect impact of service sector productivity on other industries can be quite substantial in some cases. However, productivity increases have been slower in services than in goods-producing industries. Consequently, efforts to improve productivity growth in services will have an important impact on all of the economy.

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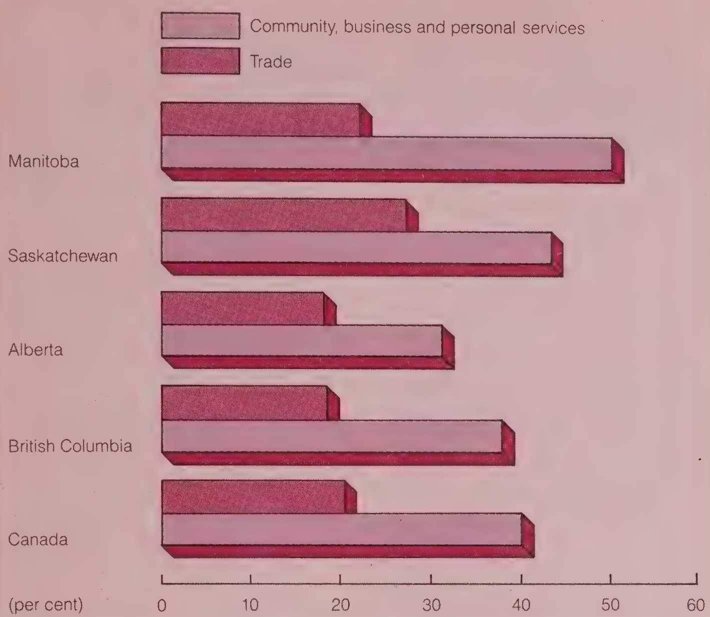
Health services, fast foods: major growth industries

For this report, the Council looks at three ways in which productivity in the service sector is improving. The first is through a steadily increasing variety of specialized service firms. These offer new, better quality, or cheaper inputs to other firms and to each other in all industries. This increased specialization leads to the creation of new activities and new jobs. For example, technological advances in automation have led to such new activities as computer software firms, data processing, and business information services.

A second route to improved productivity is technological change. This was dealt with in detail in the Council's report called *The Bottom Line* (*Au Courant*, Vol. 4, No. 1). The adoption

New jobs in western service industries

Jobs created in two key service industries as a proportion of all new jobs, 1971-1981.



of new technologies in service industries happens quite quickly in some cases. Examples include containerization, new fast-food delivery techniques, office automation, and computerized warehouses. Often the impact of new technologies in the service industries is to increase the range and quality of services offered.

A third source of productivity improvement derives from agglomeration economies (see page 14), which have to do with urban size, population distribution, and the benefits that accrue to firms because of the physical concentration of activities. Businesses tend to become more efficient when a large number of them are located in one area. "A growing population, or an increasingly urbanizing population, causes cities to grow. That growth permits rising efficiency through agglomeration economies. Living standards then go up. This growth in efficiency occurs in both the service sector and in the sector producing goods for local consumption."

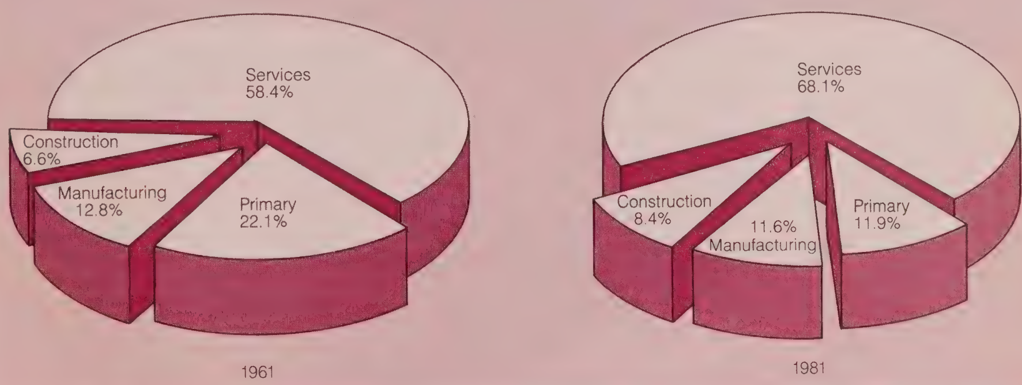
It is likely that the service sector will continue to contribute substantially to growth in employment and in living standards in the years ahead. In the Council's view, that means economic policies will have to pay much more attention than hitherto to the service sector.

Municipal, provincial, and federal governments all have roles to play. They can encourage the establishment and growth of local service sector firms. They can work at attracting service industries to a particular city or region. They can provide better training and retraining programs, which will help to smooth the transition from Canada's traditional goods-producing orientation to a service-based economy.

To ignore the potential of the service sector is to miss the chance of improving long-term growth and prosperity not just in western Canada, but in the entire country.

Growing employment in the service sector

Distribution of employment in the western provinces, 1961 and 1981.



Where do services prosper?

Services are, by and large, an urban phenomenon. For most metropolitan areas, service sector employment increased between 1961 and 1981, while the manufacturing sector's proportion of employment decreased. This was due to differing growth rates in services rather than to any actual decline in manufacturing employment.

This structural shift to services requires a change in approach, particularly on ways to improve productivity. Some were mentioned in the previous section. Here, a closer look is taken at agglomeration economies and how productivity improvements can be associated with increases in urban size.

Much of the service sector represents unexploited opportunities, especially for productivity growth. Significant economic benefits could result from a shift in emphasis of economic development strategies from goods-producing to service industries.

Most work on agglomeration economies has concentrated on manufacturing. For this report, the Council carried out new research: the application of agglomeration economies to service industries.

There are three key elements in agglomeration economies: internal

Services do best in this environment

economies of scale, localization economies, and urbanization economies. Scale economies refer to the benefits of the average number of employees per firm in each industry in a city. Localization refers to the benefits that firms derive from locating close to one another. Urbanization economies are the advantages that businesses and households have from being concentrated in an urban area.

The Council finds by means of actual measurement that each of these elements does influence service sector productivity. The effects, as a whole, are quite important, meaning that large urban areas provide efficient locations for service activities. They encourage the growth of new firms and activities, and contribute to better productivity performance in existing firms.

The Council concludes that "urban growth, the attraction of sophisticated service activities, and the development of richly diversified urban environments should form an important part of the package of development strategies used by urban and regional development planners and policy makers."

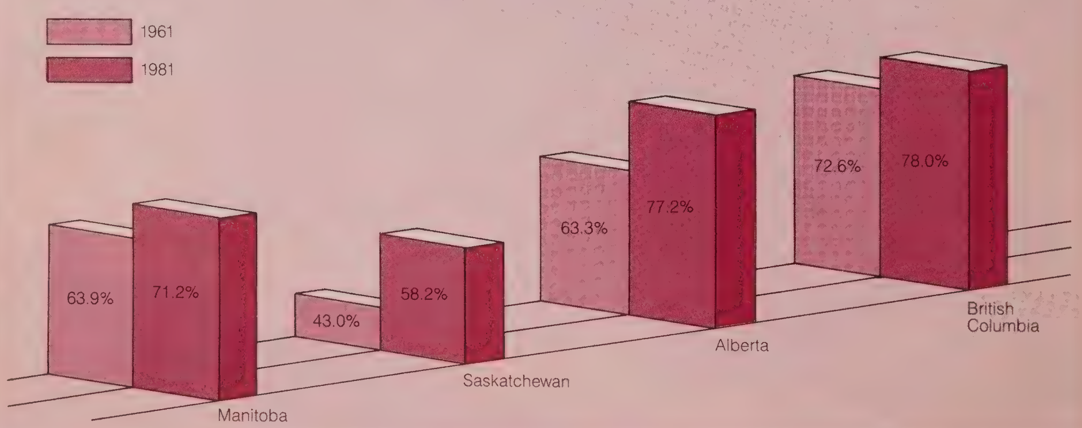
Unlimited urban growth is not being advocated. There reaches a point where diseconomies start resulting in undesirable changes in the quality of life, such as increased air pollution, congestion, noise, and the decay of city cores. Western cities are, however, well below the size at which these problems become serious, so that growth could be beneficial, because in most economies the largest cities are the most stable economically and the most successful in attracting new activities.

Municipal governments can encourage service industries through their zoning practices, by being innovative in management and the provision of public services, and by developing cultural, social, and recreational activities.

There are other ways to enhance productivity performance than the ones outlined in the Council's report, but those that have been highlighted (specialization, technological change, and agglomeration economies) have been underemphasized by policy makers in the past, and they warrant more attention in the future.

The move to cities

Urban population as a percentage of total population in the western provinces, 1961 and 1981.



Manufacturing: a plus factor

"... manufacturing growth would be helpful but not decisive"

WESTERN TRANSITION

How far can manufacturing growth help to offset the expected slowdown in natural resource growth?

"In discussing the growth prospects for manufacturing with Westerners, we were struck by their scepticism. There was a widespread conviction that the West is too distant and too small ever to become an important manufacturing centre. If 'important' means important enough to replace resources, we share that scepticism. But if important simply means important enough to keep on growing at past rates, or moderately faster, despite the resource slowdown, we do not share that scepticism."

Statistics do not support the West's pessimistic view. Over the past 50 years (and especially during the last two decades), manufacturing has grown faster in the Prairie provinces than in central Canada (see chart). The sole exception has been in British Columbia, where manufacturing growth has been a bit slower than the national average.

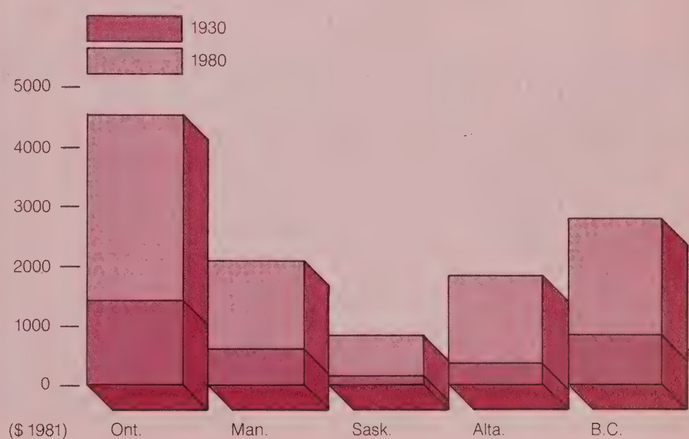
Surprisingly, the growth has been broad-based and diverse. This suggests that manufacturing has not been linked to the rapid growth of natural resources. On the contrary, research done for the Council found there is a relationship between slower resource growth and faster manufacturing growth. The evidence suggests that the last natural resource boom crowded out some manufacturing activities that were unable to compete for labour and materials.

Additional research found that manufacturing in the western provinces has been helped by urban and population growth. The continuing trend towards urbanization means that agglomeration economies will likely be a positive factor in the years ahead.

There is another issue that is probably more important than most people would think. Despite apparent disadvantages in terms of distance and small local market size, there are numerous manufacturing activities that have succeeded through determined effort.

How western manufacturing has grown

Value of manufacturing output per capita in the western provinces and in Ontario, 1930 and 1980.



Can manufacturing provide significant economic impetus and employment stability without subsidies? The Council believes that subsidies should not be given to individual firms. However, co-operative effort, requiring a modicum of government assistance, may well turn out to be one way to encourage diversification in manufacturing. Municipal and provincial governments could work together to identify particular kinds of activities or unexploited opportunities.

There is no doubt that Westerners would like to reduce their dependence on natural resources, especially with long-term trends indicating a deceleration of growth in this sector. A larger and more diversified manufacturing sector would be one way of achieving that goal, and it would help to increase economic stability in the region.

The Council is generally optimistic about future growth prospects for manufacturing. In the provinces where manufacturing has been growing significantly, Alberta and Saskatchewan, it will not only continue to do so, but will probably speed up. Manufacturing growth has not been particularly strong in British Columbia. That pattern is not expected to change. Manitoba is the most difficult to predict. Because population growth and urbanization are slower in Manitoba than in the other western provinces, agglomeration economies will not help a great deal.

Manufacturing is expected to pick up a bit with a slowing in natural resource growth. It will therefore be a useful supplement to the important role of the service sector in maintaining good growth in jobs and living standards.

Into the future

In examining the West's future growth prospects, two conflicting points of view emerge. One argues that resource-based economies grow only while the output of the resources grow. If only constant or falling production is possible, there is little cause for optimism. The other argues, just as strongly, that resource-based economies grow and evolve, with manufacturing and especially services gradually increasing in importance compared with resources and, in the end, being dominant over them.

There is no doubt that natural resources will continue to be an important ingredient in future western economic performance. However, the West is in transition and resources will not be quite so dynamic as they were in the past.

This need not pose a major problem. The economic structure of the West (as in the rest of Canada, the U.S., and much of Europe) is changing. As a result, the service sector employs about two-thirds of all western Canadian workers now and these numbers will probably continue to grow in the years ahead. Because the service sector is so big, improvement in productivity there could, if achieved, readily compensate for the expected slowdown in resource growth. These improvements would maintain living standards and contribute to the competitiveness of the West.

While municipal, provincial, and federal governments all have roles to play, the provincial governments are the key to much of the West's future prosperity.

There are policy and attitudinal changes that can lead to improvements in natural resource industries as well as in manufacturing and the service sector.

Resources

First, resources, where the Council believes some changes in policy are warranted. Forestry growth in British Columbia is at risk of slowing down, even if recovery from its present situation is achieved. The damaging consequences this would have on living standard growth and unemployment in the province can be avoided, but only if important policy changes take place (see page 7).

The grain industry would benefit from selective deregulation to improve productivity, and from improved arrangements to cope with instability. Another positive step would be to push for international agreements that would ease year-to-year fluctuations in grain prices. With regard to the livestock industry, California and Japan represent potential markets for Canadian red meat, which would richly repay study and research. Allocating rights to a fixed annual fishery catch would brighten prospects in British Columbia. Finally, greater price flexibility for natural gas exports would be of particular help to Alberta.

"I have been into the future and it works"
LINCOLN STEFFENS


National Film Board of Canada

British Columbia legislature


National Film Board of Canada

Alberta legislature

Manufacturing

Manufacturing activities can also be influenced by provincial governments. Certain kinds of industries (rather than individual firms) should be pinpointed for help. The Council expects manufacturing will continue to grow moderately, but without providing a major breakthrough for economic performance.

Services

Service industries dominate every provincial economy – and not just in western Canada. Consequently, any improvements in this sector would have significant results in terms of jobs and living standards. Traditionally, government economic development policy has emphasized the goods-producing industries. The Council, through research carried out for this report, has shown this no longer reflects reality. It is time to change the policy emphasis to encourage the service sector. Promoting

technical change and its diffusion and helping small business acquire capital and management skills are two possible methods of achieving this goal.

Because services are, by and large, an urban phenomenon, there is much that could be done by municipal planners to encourage the establishment and growth of such industries. Aside from zoning procedures, the provision of cultural, social, and recreational facilities help to attract services. There are benefits to be realized by the location of firms in urban areas — agglomeration economies. As a result, the Council recommends development policy should "take due note of not only the social value of small towns and rural life but also the economic benefits to be obtained from encouraging growth and diversification in larger cities."

The individual provinces have slightly varying prospects.

British Columbia

Of the four western provinces, British Columbia is the most resource-dependent: forestry dwarfs all other goods industries. Even manufacturing and service sector employment in the province is heavily tied to forestry. The future of this sector, while not particularly bright under current policies, could be much improved by the provincial government. Action in the fishery and coal industry could also brighten British Columbia's future resource prospects. Finally, as in all the provinces, significant gains could be made by paying more attention to the service industries.

Alberta

In the years ahead, economic growth in Alberta is expected to settle back at or perhaps slightly below the national average, as the output of conventional oil and gas slows down.

"The ability to withstand a major slowdown in the growth of such an important natural resource without significant economic hardship may be due partly to the important role played nowadays in job and real income growth, by the non-resource industries in Alberta, notably those in the service sector," the Council says.

The Council suggests that provincial and federal policies on transportation, gas pricing, jobs and productivity in the service sector could mean the difference between average or above-average economic performance in the future.

Saskatchewan

Traditionally, Saskatchewan has experienced the greatest income instability of the western provinces. In recent years, however, the gap has narrowed somewhat. Unfortunately, greater instability in the grain industry, and slower growth in other resources, are expected in the years ahead. While this will likely translate into more unstable and slower real income growth, the province's income levels will probably continue converging toward the national average.

Improvements in grain productivity, transportation efficiency, and sales of natural gas would be beneficial. Productivity improvements in services could make a significant contribution.

Manitoba

Manitoba's future is probably the hardest to call. Over the past 20 years, Manitoba has had the lowest real income growth in the West. Nationally, only Ontario has grown more slowly. The province has been the provider of many services to the other western provinces.

In the years ahead, income growth will probably slow down, but not as much as in the other provinces.

The best chances for success lie in the grain industry, manufacturing, and services, especially transportation.

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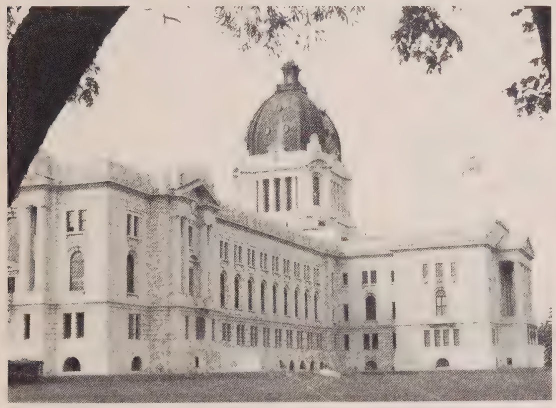
While concerned over the sustainability of economic prosperity in the West, the Council is fundamentally very optimistic. Governments can help justify this optimism by appropriate action in all sectors of the economy. Much can be done to improve resource growth – the West's traditional area of strength. But much can also be done by paying attention to the structural change towards services, which has been under way for more than 20 years. There are great unexploited opportunities to be seized in the service sector – opportunities for speeding up technological change, fostering growth in living standards, and stimulating productivity improvements. Attention to services, together with a judiciously balanced policy mix, can give a major impetus to the western economies.

Changes are definitely in store for the West. "While remaining recognizably resource-specialized, the success of the West may come to depend as much on high performance in the service and manufacturing industries as in the resource industries," the Council concludes. If this comes to pass, western economies should continue to grow and prosper: the words of Lincoln Steffen sum up the general outlook: "I have been into the future and it works."



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WORKING TO IMPROVE
CANADA'S POLICY PERFORMANCE

W That has been the chief concern of the Economic Council of Canada since its creation as an independent advisory body in 1963.

Over the past two decades, the Council has focused on public policy issues of key importance to Canadians – including economic growth, the role of new technology, the impact of government regulation and the changing job market, to name only a few.

The Council pursues its goal of improving Canada's economic performance in three ways:

Consultation

Members of the Council, representing a wide cross-section of Canadian society, meet regularly with governments and groups to study, analyse, and make recommendations on significant economic issues.

Research

An expert staff originates research and provides background information on a variety of topics, with particular stress on the medium- and longer-term problems of the Canadian economy.

Information

The need for better information on economic issues has led the Council to place strong emphasis on its contact with the public, through the use of topical publications, speeches, conferences, workshops and media relations.

Economic Council of Canada

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A new report on energy

Plus: The Council's annual review of the economy

PUBLICATIONS

New Council Report

Connections: An Energy Strategy for the Future (EC22-124/1985E; $9.95 in Canada, $11.95 elsewhere).

In a wide-ranging report on Canada's energy industry, the Economic Council proposes a new energy strategy, designed to increase economic benefits for all Canadians. Deregulation of oil and gas prices, and reform of regulations in the electricity sector are key elements of that strategy.

The Twenty-First Annual Review

Steering the Course (EC21-1/1984E; $5.95 in Canada, $7.15 elsewhere).

In its 1984 review of the economy, the Council focuses on the dual problems of high unemployment and a rising federal deficit. The two concerns can be tackled simultaneously, the Council concludes, and provides some suggestions on how this can be done.

Discussion Papers

Discussion papers are typically of a technical nature, and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the authors or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 269 "Old Myths and New Choices: Railway Freight Rates and Western Economic Development," *by Thomas T. Schweitzer.*

No. 270 "Exhaustible Resources and Economic Growth: The Case of Uranium Mining in Saskatchewan," *by Harry F. Campbell.*

No. 271 "Productivity, Scale Economies and Technical Progress in the Canadian Life Insurance Industry," *by Michael J. Daly, Randall Geehan and P. Someshwar Rao.*

No. 272 "Grains in Western Canadian Economic Development to 1990," *by R.M.A. Loyns and Colin A. Carter.*

No. 273 "Farm Income Insecurity on the Prairies," *by Jacques Jobin.*

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). Three new titles have been published since the last issue of *Au Courant*:

The Changing Economic Status of Women, *by Jac-André Boulet and Laval Lavallée* (EC22-122/1984E; $6.95 in Canada, $8.35 elsewhere).

Blue Gold: Hydro-Electric Rent in Canada, *by R. C. Zuker and G. P. Jenkins* (EC22-120/1984E; $5.95 in Canada, $7.15 elsewhere).

The Subsidization of Innovation Projects by the Government of Canada, *by Abraham Tarasofsky* (EC22-121/1984E; $7.95 in Canada, $9.55 elsewhere).

Reprint

The following Council research study has been reprinted, and can be ordered according to the information below:

Government Loan Subsidies, *by S. Damus* (EC22-116E; $5.95 in Canada, $7.15 elsewhere).

How to order

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Volume 5, No.3, 1985

au courant

Connections: An Energy Strategy for the Future

Highlights from a new Council report:

Steering the Course

Highlights from the Council's Twenty-First Annual Review:

A REMINDER...

...about the conference on "Strategy for Energy Policy", to be held at the Calgary Convention Centre on January 28th and 29th, 1985. Sponsored by the University of Calgary's Department of Economics, and Faculty of Continuing Education, the conference will focus in large measure on the Economic Council's new energy report. Participants from energy industries, universities and government will be in attendance.

For further information, and details on registration, contact Madeleine Aldridge, (403) 284-5051.

Au Courant est également disponible en français.

The major reports featured in *Au Courant* reflect the viewpoint of the Economic Council.

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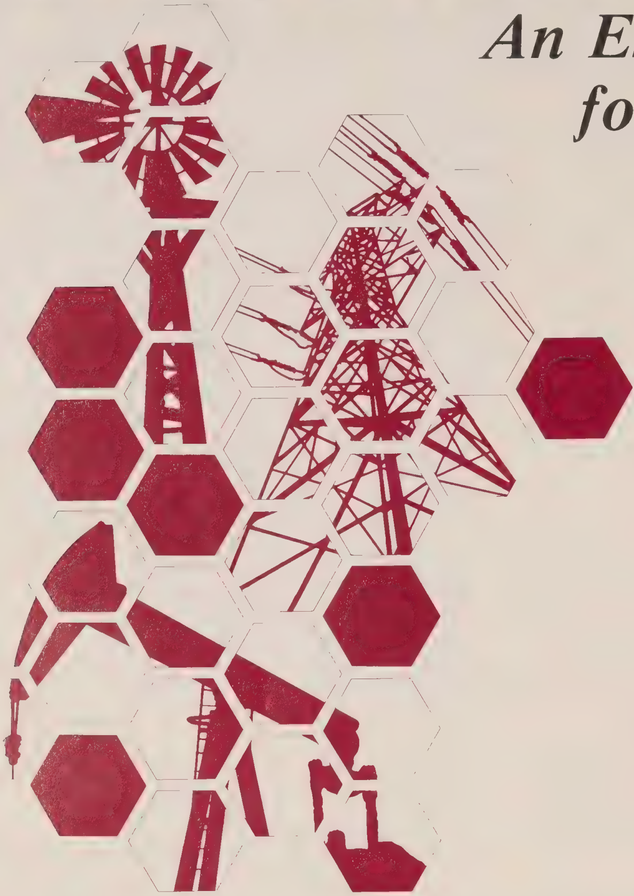
CONNECTIONS:

An Energy Strategy for the Future



The time has come for a fresh new energy strategy, placing much greater emphasis on economic growth and development. That means bringing all domestic energy prices more in line with the world price of crude oil, says the Economic Council in a wide-ranging report on Canada's energy industry.

Canadian public interest is not especially well served by current federal and provincial energy policies, in the Council's opinion. While they try to cover a somewhat breathtaking range of objectives (resource development, increased Canadian ownership and national economic concerns, to name just a few) they fail to pay enough attention to three critical economic realities: the impact of domestic oil pricing on every aspect of the Canadian economy; the responsiveness of energy markets to economic factors such as prices; and the sheer complexity of resource management.

The development of an energy policy based on these realities won't be easy, given the political, regional and institutional concerns that need to be considered. But the Council firmly believes that better resource management producing greater economic growth, "could make the resolution of Canada's social and political problems easier and less costly."

The potential benefits from improving energy policy are very large. The energy-producing industries – primarily oil and gas, electricity, coal and uranium – form a substantial part of the nation's economy, delivering in 1982 some 43.2 billion dollars worth of energy to Canadians, and exporting some $12.8 billion, with domestic investments reaching about $20 billion that same year. In addition to its economic role, energy's importance to society has led federal and provincial governments to seek some degree of control over supply and distribution, either through regulation, or through direct government ownership.

Historically, energy policy tried to balance these two issues of economic development and control, along with a host of other concerns. Until the advent of the OPEC crisis in 1973, petroleum (i.e., oil and gas) policy managed this

feat reasonably well: economic objectives were usually accorded top priority in an atmosphere of federal-provincial accord.

The years following 1973 however, gave rise to dramatic shifts in policy, and serious weakening in consensus. The fundamental goals of economic growth, development and efficiency were overshadowed by pressing political concerns, such as economic stabilization and the sharing of energy revenues.

"...Canadian prices for crude oil, natural gas, coal and even electricity should be more aligned with the world price of crude oil."

Connections

Federal-provincial differences over resource management surfaced in the 1970s and hardened with the introduction of the federal National Energy Program (NEP) in 1980 and its subsequent revisions. Over the past 15 years, the Council observes, "The long-run economic foundations of petroleum policy have yielded to short-term conflicts of interest. Detailed agreements have been hammered out and subsequently revised, item by item, to meet changing circumstances."

While the decade of the 1970s left its mark on the electricity sector as well (principally due to excess supply at the end of that period), little friction developed between the federal government and the provinces on policy matters. Developments in the sector – which has a number of monopolistic aspects and thus requires provincial government involvement – have been characterized by a move towards public ownership and control, and integration at the provincial level. Now that the sector is well developed, the Council says, provincial policies have more room to focus on such issues as economic efficiency in pricing, investment decisions and the development of profitable export markets.

The Council's assessment of the current energy situation in Canada leads it to conclude that ". . . energy policy in recent years has tried to juggle too many issues." Instead, "its aims should be kept within reasonable bounds; it should be shifted back to its economic underpinnings . . . ." But that will require integration of many political, regional, economic and international considerations. Chief among the issues forming the current policy setting are the following:

- *Division of powers*: unclear and overlapping constitutional powers affect the respective roles of federal and provincial governments with regard to the management and taxation of energy, primarily in the oil and gas industry;
- *Diversity of provincial interests*: the stand taken on such energy issues as oil pricing, taxation, and resource development has varied considerably among the provinces over time. For example, the two major energy consumers, Ontario and Quebec, have differed over domestic oil pricing policy, not only with the energy-surplus provinces, but also with each other;
- *National economic concerns*: burgeoning economic problems on the national scene – the recession, slow productivity growth, high interest rates, rising unemployment – concurrent with increasing fiscal deficits, have limited Ottawa's ability to play a major role in economic management, equalization of provincial revenues, and the conduct of major national policies;
- *Energy security*: the events of the 1970s triggered a drive by both levels of government towards energy self-sufficiency, exemplified in a wide variety of measures, including conservation programs and incentive grants;
- *Energy exports and imports*: energy exports accounted for more than half of Canada's total trade balance for merchandise trade in 1983, signifying a very bright overall energy trade picture. But Canada continues to import light crude oil as well;
- *World oil markets*: the outlook in this area remains uncertain. Council research shows the great difficulty involved in predicting long-term trends in oil prices (see *Au Courant*, Vol. 5, No. 1). While world demand for oil is unlikely to average much above one or 2 per cent a year – lessening the likelihood of future shortages – the causes of oil price instability persist (the nature of the OPEC cartel, and the concentration of reserves in the politically volatile Middle East);
- *Ownership and control*: the large foreign ownership of Canada's oil and gas industry has been a source of concern for policy makers. The creation of Petro-Canada in 1975, and various measures included in the NEP are indications of federal government efforts to gain greater domestic control over events in the energy sector, and to provide Canadian oil companies with the same access to capital as their international counterparts;
- *Constraints in current petroleum agreements*: a plethora of programs launched by the NEP, and numerous federal-provincial agreements covering energy pricing and taxation are locked into fairly long-run commitments which act as a constraint on policy changes.

Given the complexity of this policy setting, it is clear that any new energy strategy will need to integrate a welter of political, social and regional concerns, and will require continuous consultation among all the many groups involved. At the same time, though, says the Council, the emphasis must be placed on developing the economic potential inherent in Canada's substantial resources. In the case of oil and gas, that means replacing the current set of rigid rules, regulations and pricing formulas with a more flexible system, allowing prices to adjust to changing conditions in the market place. Electricity policy will require action as well.

"...energy policy in recent years has tried to juggle too many issues."

Connections

The bearing that current policies have on oil, gas and electricity supplies, as well as on demand, conservation and alternative energy technologies is discussed in the following pages, followed by the Council's recommended approach for a new energy strategy.

The outlook for energy supplies

Oil

Two major changes in domestic oil policy would lead to a sizable increase in Canadian oil production, Council analysis shows.

The first key change involves tying domestic oil prices to prevailing world prices; the second, establishing more efficient tax and incentive structures to encourage exploration and development.

The Council arrives at these recommendations by a three-part process. First, it tests and confirms the theory that "the supply of oil will increase if Canadians are willing to pay more for it." Secondly, it reviews the major Canadian sources of oil supply (both existing and prospective) from the viewpoint of costs, estimated profitability, and supply responsiveness. Finally, it assesses the impact that existing policies on oil pricing, incentives for exploration and development, and the collection of taxes and royalties, have on Canadian oil production.

Present and future prospects

Evaluating the prospects for Canadian oil production has become an increasingly important exercise. Study of the evolution of the Canadian oil industry shows that over the past decade, oil production has been dropping, that remaining established reserves of conventional crude oil have also been going down (because additions to reserves have not kept pace with production), and that the cost of finding oil has been going up. Moreover, according to the federal government's energy regulating agency, the National Energy Board (NEB), the outlook for future supplies is not very encouraging. The present NEB forecast, which reflects current government policy, is pessimistic with respect to one of Canada's major sources of oil supply: the reserves of conventional light oil in the Western Sedimentary Basin (WSB), an area extending over much of western and northwestern Canada.

Responsiveness of supplies

Assessing future oil supplies is never easy, the Council points out, because of the many uncertainties surrounding the supply process, and also because prices, costs and policies have a substantial impact on industry activity. But Council analysis of the oil supply process – through studies of particular geological horizons and four enhanced oil recovery projects in Alberta – succeeds in making one important point, by confirming that oil supplies do respond positively to price increases. These results "dispel the notion, which seemed to underlie policy in the 1970s, that productive oil capacity in the Western Basin would not increase in response to higher economic incentives." The Council takes the position that, with the right policies in place, the outlook for conventional oil supplies will brighten.

Case study results

Before considering the question of policy reform, the Council sketches in the broad picture of costs, prices and profitability of Canada's sources of new oil supply. A series of case studies – on existing oil reserve projects, on the Alsands and Wolf Lake oilsands projects, and on possible developments in the frontier areas of the Beaufort Sea and Hibernia – produce the following assessment:

- the lowest cost oil is found in the Western Basin;
- substantial reserves of light and heavy oil from existing oil reserves can be developed by means of "enhanced recovery" methods, given supportive government policies;
- recovering oil from oilsands remains costly at this stage. Given current technology, attempts to develop supply from the oilsands in smaller increments are preferable to the megaprojects of a few years ago;
- frontier oil offers long-term potential, but until commercial discoveries are made and marketing can begin, profitability will remain uncertain. Changes in certain federal government energy taxes would improve expectations.


National Film Board of Canada

Oil price deregulation makes economic sense

Policy changes required

From that review, the Council concludes that developing the enormous potential of Canada's oil resources at the lowest possible cost will necessitate some important policy changes. First of all, supply management should be geared to efficiency and to making it profitable for industry to explore and develop new sources. But the current pricing policy – whereby "old" oil (i.e., oil discovered before 1974) is priced below world levels, and "new" oil at the world price – fails on both those counts. Keeping domestic prices down has limited industry's profitability and its capacity for exploration and development. Further, discriminating between "old" and "new" oil has distorted supply, encouraging production of the more costly new oil over the old. To eliminate these problems, the Council recommends that all domestic oil be priced at world levels.

In addition, the incentive system needs to be changed. The federal government's National Energy Program (NEP), established in 1981, put emphasis on promoting the discovery of oil in frontier areas, and so introduced a system of grants for exploration and development, known as "Petroleum Incentive Payments" (PIPS). This form of subsidy isn't the most effective means of achieving NEP targets, the Council says. But even more important, it encourages frontier development at the expense of potentially more productive activity in the Western Basin. Priority should be given to improving economic incentives for activity in the WSB area, the Council says.

Finally, the federal government method of collecting economic rent through taxes and royalties needs an overhaul. While provincial royalty schemes tend to take account of the profitability of a given oil field, the federal Petroleum and Gas Revenue Tax or PGRT (which allows for the deduction of operating costs only) does not. That can lead to overtaxation of projects with low profits, and undertaxation of those with above-normal profits. Preferably, the PGRT should also allow deductibility of certain capital costs, in the Council's view.

Gas

Policies dealing with natural gas should be more flexible, and, over several years, should provide for deregulated domestic gas prices, according to the Economic Council.

National Film Board of Canada

Frontier oil: long term potential

At present, an overly rigid approach – apparent in gas pricing and the structure of taxes and royalties – is preventing the industry from realizing its full potential. Although policy changes over the past few years have begun to address these problems, the Council believes they may not have gone far enough.

The most glaring characteristic of the natural gas market at the moment is the current imbalance that exists between supply and demand. The industry is awash with surplus supplies of available gas, and thus is operating far below capacity – graphically illustrated by the fact that, in 1983, there were as many as 11,000 shut-in wells in Alberta.

While that situation has its downside, it does offer Canadians a number of opportunities, the Council says. Alowing deregulation of gas prices would restore a better balance between supply and demand, would allow Canadian consumers to enjoy lower gas prices in the short to medium term, and would encourage the substitution of gas for more costly forms of energy.

Furthermore, Canada's abililty to take advantage of this situation is reinforced by the massive long-term gas potential that exists in the Western Sedimentary Basin and in the frontier areas.

Rigid price system

The present state of affairs is attributable in part to a rigid and complicated system of setting gas prices. In the Council's opinion – based on research confirming that gas supplies will respond to changes in price – new policies with the flexibility to adapt quickly to market realities could turn things around.

In 1981, a two-price system (the "Toronto city gate price," and the "Alberta border price") was introduced into the domestic market. Now domestic consumers pay a price set by the federal government at approximately 65 per cent of the blended Canadian oil price, evaluated at the Toronto city gate (i.e., including transportation costs to that point, as well as federal taxes and subsidies). Producers, on the other hand, are paid at the other end of the transmission system, with prices at the Alberta border defined by federal-provincial agreements.

The major drawback to this administered price system is that governments are rarely – if ever – able to bring prices in line with market conditions,

due to the many supply and demand considerations involved.

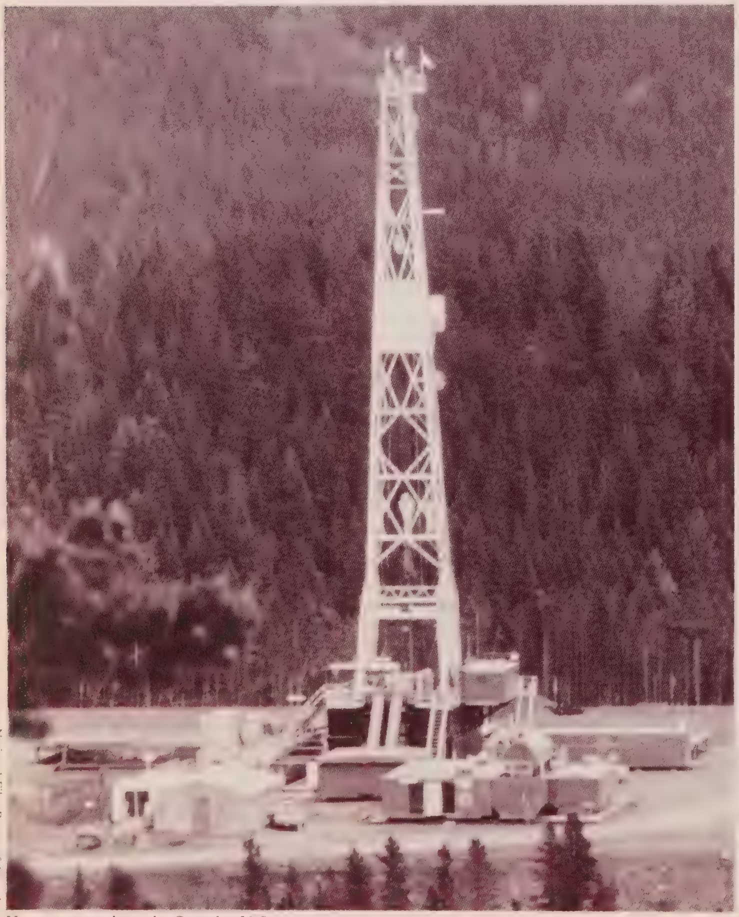
Solution to problems

The best solution is to move towards eventual deregulation of natural gas prices, says the Council. It recognizes though that, in the short term, a transitional arrangement will be necessary. Consequently, it suggests that the federal government continue to set the gas price over a transitional period to allow producers and buyers of gas to adjust to the new system. Then, with gas prices deregulated across the country, the Alberta border price would no longer be separately determined, but instead would be "market-sensitive" – that is, calculated at the Toronto price minus transportation costs.

Measures also need to be taken to provide industry with the incentive to find and develop new supplies. A more flexible fiscal system, bringing taxes and royalties in line with industry profitability, would go a long way to achieving that goal, the Council says.

While changes are essential insofar as domestic policy is concerned, export policy (providing for more export licences and lower prices) is now on the right track, the Council finds, and policy improvements should involve "doing more of the same." In particular, the Council believes that the present system of regulating export gas prices should continue, in order to ensure a fair return on Canadian gas exports.

Even though export sales to the United States are low at the moment (largely because the U.S. is busy soaking up its own gas surpluses), the long-term outlook is good. As the NEB has indicated, there are potential new markets in the northeastern U.S. and in the north-central region of the Midwest.



National Film Board of Canada

Huge gas surpluses in Canada, U.S

Electricity

Sound economic management of the electrical industry requires changes in the regulatory structure. In particular, says the Council, provincial policy makers who manage the resource need to take a close look at their pricing and investment strategies.

The present structure of the electrical industry reflects the desire of provincial governments to achieve not only economic efficiency, but also a range of other objectives – including energy self-sufficiency, economic development and social concerns. Overall, one of the primary policy objectives to date has been to ensure the lowest possible rates for electricity consumers.

There is some concern now, however, that this approach results in the selling of electricity at prices below its real cost, leading to overconsumption and waste of valuable resources.

Now that the industry is mature and a major force in the energy market, the Council believes that greater emphasis should go to achieving economic efficiency. The fundamental problem from this particular standpoint lies in the complex business of regulating prices for a natural monopoly – as electricity is – in order to avoid excessive monopoly profits and create supply conditions beneficial to the economy. Because of this monopolistic aspect, the Council sees the need for a more comprehensive and systematic regulatory framework.

Regulation of monopoly prices generally involves two steps. First, regulators determine the "revenue requirement," or the revenue necessary both to cover reasonable production costs and to yield an acceptably fair return on assets. Then, costs are allocated across sales, and a rate structure is designed to meet the revenue requirement.

Underpriced electricity

The present-day method of calculating the revenue requirement for public utilities tends to undervalue the true cost of electricity for a variety of reasons. One is that the return on the massive amount of assets employed in the industry is too low, because utilities are not required to make a competitive rate of return on investment, because they have access to low-cost debt, and because their method of assessing costs could lead to the undervaluation of new or prospective assets.

While a low return on assets plays in favour of lower electricity rates, to the short-term benefit of the consumer, this approach also has some negative consequences. It slows the development of energy conservation, and it adversely affects investment decisions in both the electricity and non-electricity sectors.

Several alternative approaches to financial management would be more efficient, the Council believes. As one option, governments could recommend a target rate of return for investment decisions by utilities. Or, utilities could be required to obtain debt capital on their own behalf without any provincial guarantee, except in exceptional circumstances. Improving capital structures within the utilities is an essential first step in effecting these reforms, the Council notes.

Another reason for artificially low electricity prices lies in the preferential treatment governments give utilities, in the form of income tax exemptions and low collection of economic rent. Yet another cause is found in the government practice of applying profits from export sales of electricity against the costs of domestic supplies – in effect, subsidizing consumers – rather than collecting them as provincial revenues.

Policy changes are definitely called for, in the Council's view, in order to bring electricity price levels more in line with the true economic costs of electricity supply. But these changes will need to be gradual enough to allow consumers to adjust and policy makers to realign economic development policies. Key in that process will be alterations in the detailed rate structure of electricity prices.

Rate Structure

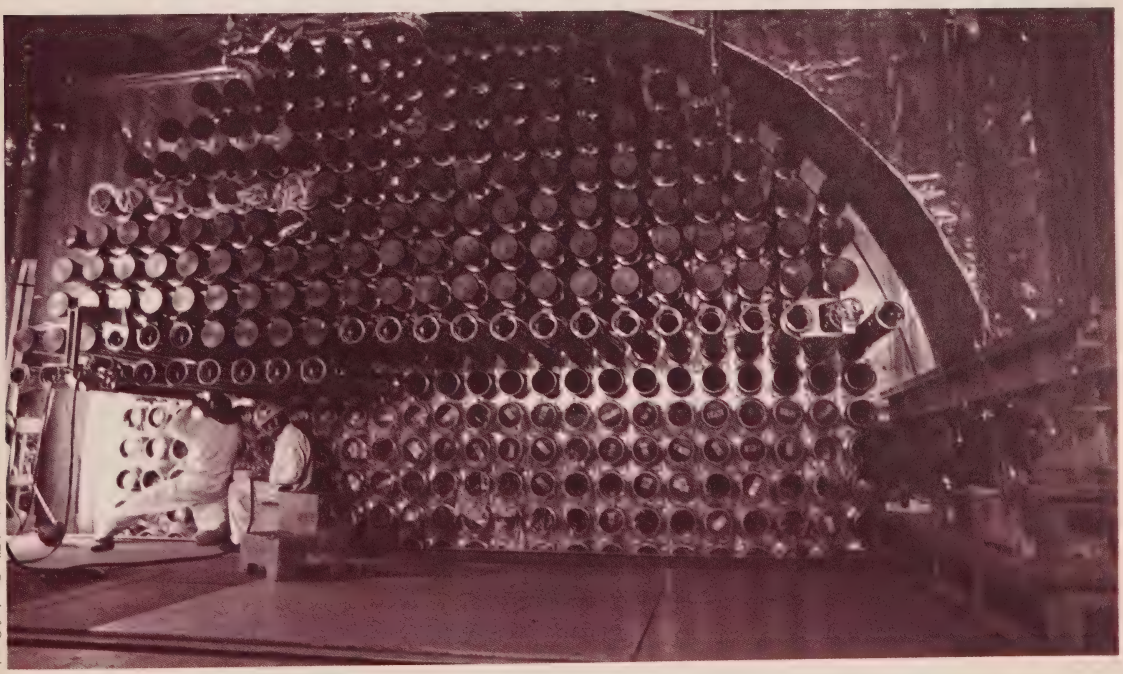
Insofar as rate setting is concerned, the mandate of provincial regulatory boards has been and remains to ensure fair and reasonable rates. Rates also must meet the revenue requirement and attempt to satisfy a number of other concerns (economic and regional development, for example).

Once again, says the Council, the keynote in this area should be economic efficiency – but that will mean making some changes in the system. At the root of the problem is the enormous variability in electricity demand, both during the day (it is greatest in the morning and early evening) and over the year (it is heaviest in winter). That variability makes it extremely difficult for utilities to plan a system which simultaneously minimizes costs and meets peak demand – when costs for the most part are higher. Their answer has been to impose more or less uniform rates with no allowance for time of use, with the result that some consumers pay too much and others too little.

A better approach lies in the implementation of "time of use" rates, the Council says. Encouraging a shift to offpeak, lower-cost periods, by offering discount rates (much as telephone companies do for long distance calls) would not only end price discrimination, but would bring other benefits as well. Overall costs would be reduced for utilities over the longer term, through the reduction of capacity requirements, and energy conservation in more costly time periods would be encouraged.

Exports

Canada exports about 10 times more electricity to the United States than it imports – and trade is expected to grow substantially in the future. That favourable outlook raises an important policy question, the Council says. As exports increase, so will their share of the revenues going to the utilities. As that occurs, "it will become increasingly inappropriate to pass on the export profits to domestic consumers in the form of reduced rates." Creating separate utility subsidiaries to handle export sales and deal with export profits might be the best solution to this particular policy problem.



National Film Board of Canada

Low cost electricity for Canadians

Shaping energy demand

Canadians used to believe that their climate, geography and high living standards meant they would never be able to scale down their heavy energy demands.

But the events of the past decade disproved that notion, as the oil price shocks of the 1970s stopped energy demand in its tracks. Now it is widely recognized that demand is flexible, responding to energy prices, policies and technology.

That means policy makers can rely more on pricing policies to shape demand than they once thought, says the Council. Letting energy prices adjust to supply and demand conditions would not only restore balance to the market, but also – together with improved information and more selective government initiatives – would stimulate energy conservation and encourage the efficient use of energy sources through subsitution.

Although energy demand has always been affected by technological, economic and policy issues, its adaptability was never more apparent than in the years following the oil price shocks. Over the succeeding decade, energy demand grew at an average of less than one per cent a year, rather than at the 5 to 6 per cent that prevailed earlier. Energy use in homes and industry dropped by 13 and 17 per cent, respectively, and consumers in droves switched to energy sources other than oil, which declined in market share from 45 per cent in 1973 to 35 per cent ten years later.

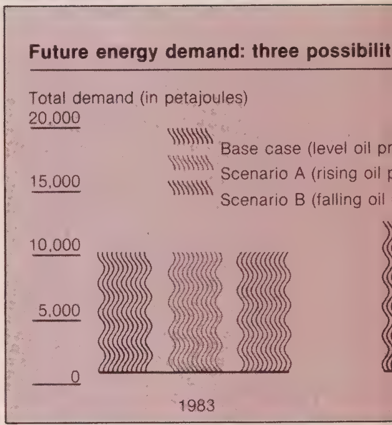
During this period, consumers were compelled to adapt to an entirely new energy situation – and that was not easy, especially in certain regions and sectors. People in the Atlantic provinces had a particularly tough time when oil prices exploded, due to their heavy oil dependency. Moreover, they found it difficult to switch to alternative energy forms, because options were limited and costly. Certain sectors also received a jolt. The transportation sector, for example, is to this day almost totally dependent on oil products such as gasoline, and thus had a major adjustment to make. Smaller, lighter cars and reduced speed limits are two examples of how the automotive sector coped.

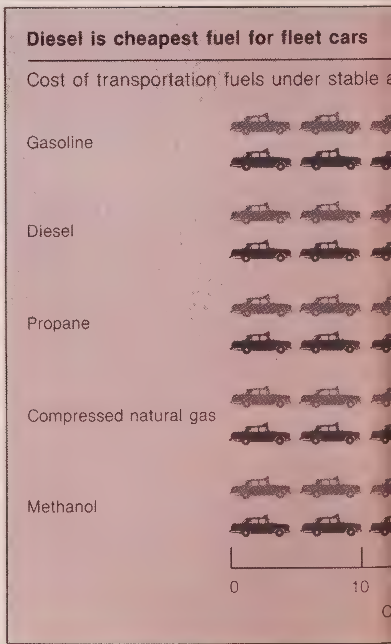
Understandably, there is considerable interest in what demand will do in the future. Although more changes will inevitably occur, says the Council, their nature is somewhat difficult to predict, since market conditions play such an important role in determining demand. However, working with a model developed by Energy, Mines and Resources, the Council traces general demand trends through to the year 2000, by developing three scenarios. All three assume that present policies will continue and that economic growth will average 3 per cent a year over the period. The first scenario, or "base case" – used as a point of reference – assumes that the world oil price will not change in real terms. The other two scenarios are based on the hypotheses that between now and the year 2000, prices will rise by 5 per cent a year in real terms (Scenario A) or fall by 5 per cent (Scenario B). The accompanying chart shows what happens to energy demand under all three assumptions. Work with the model also indicates that oil use drops in all three scenarios, with consumers shifting to hydro and nuclear electricity rather than to natural gas. That is explained by the current policy of setting gas prices at 65 per cent of the blended Canadian oil price, says the Council, and it implies that, under current price regimes, "there will be little expansion of the market for natural gas."

Energy conservation

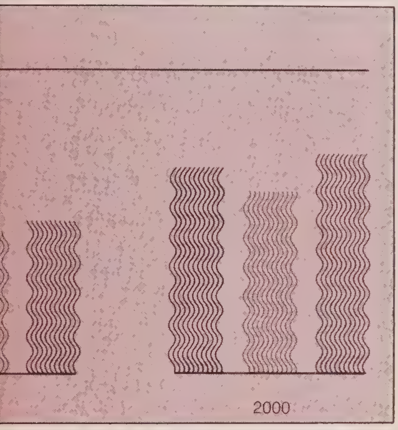
Measures to encourage conservation in Canada have been under way since 1973, with varying degrees of success – some sizable – across regions and sectors. There has been some concern, though, that for a variety of reasons – including the pricing of conventional energy, and the lack of consumer awareness of new technologies – sensible energy options have been overlooked. With that in mind, the Council undertook to examine the competitiveness of new energy technologies capable of replacing conventional forms, in the residential, industrial and transportation markets, and to determine whether current market conditions speeded up or impeded their introduction.

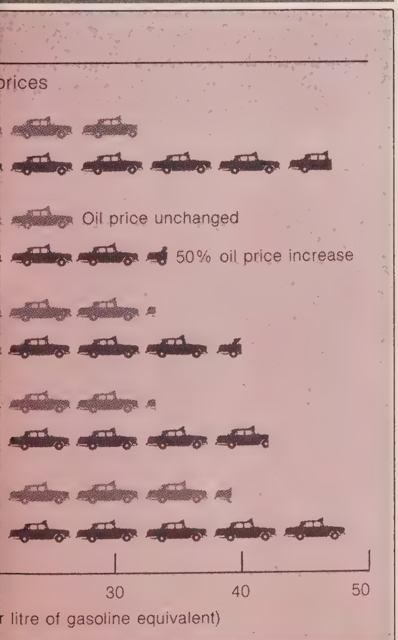
The Council study examines space heating devices for homes (the condensing gas furnace, the heat pump, and the central wood furnace); three technologies for industrial use, comprising industrial co-generation, waste heat recovery, and energy from waste;





and alternative automotive fuels (diesel, propane, compressed natural gas and methanol). All were analysed over an investment horizon beginning in 1995, the time span considered necessary for the emerging technologies to penetrate the market. As a reference





point, the Council assumes world oil prices increase only fractionally, that gas is valued at 85 per cent of the world oil price in 1995, and that electricity prices a) stay the same or b) increase by 30 per cent.

Home heating devices

The study reveals the condensing gas furnace to be a most attractive option for householders (see *Au Courant*, Vol. 5, No. 1 for a detailed presentation of results). But although there are clear advantages to investing in this option, current trends tend to favour conventional heating forms instead. The problem in the Council's view stems from a lack of consumer information. Governments should be suggesting energy targets to homeowners, and also to builders who decide what form of heating to install in new homes.

Industrial co-generation

Industrial co-generation – or the simultaneous generation of electric power and useful heat from a single plant and energy source – is somewhat dependent for its success on future energy costs. If electricity prices go up, the economic potential for co-generation increases enormously. Under high oil and gas prices though, it becomes relatively less attractive because it is a fuel-intensive means of electricity generation. Still, over the long term, co-generation could meet an increasing share of electricity demand, the Council believes, given active cooperation and involvement by the utilities.

Waste heat recovery

Much of the heat energy that is wasted when energy is consumed in Canadian manufacturing and mining industries can be recovered and used again in the industrial sector. Council analysis of 31 waste-heat recovery projects shows they are characterized by low investment costs and high energy savings. Moreover, the technology is sufficiently competitive on the market today to attract investors. But industrial managers may not be giving this process their full consideration, nor applying the right kind of financing criteria to new projects. Governments can help here through information programs or by encouraging new forms of financing.

Energy from waste

Producing steam from municipal solid waste also has considerable potential at reasonable cost, the Council finds. But although sufficient financial incentives appear to exist even now for implementation of new plants, these projects are not going ahead. Some technical problems, along with the large degree of cooperation required from numerous parties at all levels of government and industry, probably explain why this is the case. One solution might lie in the acceleration of demonstration projects promoted by a multipartite task force dedicated to energy-from-waste technology and project planning, suggests the Council.

Automotive fuels

Some of the results of Council analysis of alternative fuels for private and fleet cars (such as taxis) are illustrated in the accompanying chart. (See also *Au Courant*, Vol. 5, No. 1). While it is apparent that diesel is the cheapest fuel for fleet cars under static or rising oil prices – a finding that proves true for private cars as well in the latter scenario – current government policies providing tax breaks and conversion incentives for propane and compressed natural gas are promoting the use of these fuels instead. These policies need to be revised, the Council says, to achieve a more cost-oriented market balance.

The results of Council analysis of promising energy conservation and substitution technologies reveal that in many cases markets are not adopting the cheapest energy solutions. A first requirement for policy in this area, concludes the Council, is "to recognize fully the capacity of the market to adjust to a changing environment" by enabling prices to reflect real energy costs. Government programs can then be implemented wherever necessary to complement or stimulate the market response, through providing information, support of research and development, and on occasion, financial assistance.

A new energy strategy

Devising a new energy strategy is no easy matter, given that energy issues impinge on a staggering range of economic, political and social concerns in Canada.

But the Economic Council is convinced not only that such a strategy is possible, but also that it can create a better tomorrow for Canadians.

"We believe," the Council says, "that our proposals can contribute, to a significantly greater extent than current policies, to the achievement of efficient resource management, the functioning of fair and resilient mechanisms for the sharing of resource revenues across the country, increased Canadian participation in the oil and gas sector, greater energy security, and stronger economic development in the short and longer term."

Furthermore, Council analysis of the effect its proposal would have on the economy illustrates that this can be done without increasing the financial burdens of the federal government.

Revenue-sharing and resource management

An essential first step in developing an energy policy with efficient resource management as its cornerstone, says the Council, lies in settling the contentious issue of the sharing of resource revenues. The root of the problem in this regard is typically Canadian – a divided jurisdiction over unequally distributed resources. While the intricacies of that situation affect all resources, oil and gas have come in for particular attention lately, because of their huge recent revenues. In the Council's opinion, though, revenue sharing should be discussed, not in terms of oil and gas, or even energy policy in general, but rather in the context of federal-provincial fiscal relations. The fundamental issue as the Council sees it concerns distributing the costs and benefits of Canadian life fairly among Canadians.

The Equalization Program ensures that all Canadians can receive the same basic public services at approximately the same cost, by means of a system of unconditional transfer payments, through the federal government, from the rich to the poorer provinces. That program, with some modifications, can also see to it that Canadians everywhere benefit from resource windfalls, the Council says. But the federal government should have access to some of the provincial resource revenues to finance equalization payments and to distribute the costs of federal services and activities fairly among Canadian taxpayers. That requires clarifying constitutional provisions regarding federal taxation of provincial resources.

To resolve this issue, the Council recommends that federal and provincial governments should "enunciate principles and establish mechanisms for the sharing of government revenues from all natural resources." Although resource royalties (or rent) should be collected by the resource owner (in most cases, the province), the federal government should be guaranteed a share, regardless of provincial collection and distribution policies.

With the prospect for an agreement on revenue sharing, the Council says, the way would be clearer for the government owning the resources to assume paramount responsibility for the management of production and development of the resources within its jurisdiction, including the direct collection of resource revenues. That, however, does not preclude governments from collaborating on the establishment and administration of a particular regime.

The Council recognizes that concluding and following through on such an agreement will take time. Meanwhile, the federal government will need to continue taxing resources, preferably in co-operation with provincial governments. So the Council proposes the implementation of certain interim measures designed to improve taxation efficiency in the oil and gas sector. Essentially, it recommends scrapping a major federal government tax (the Incremental Oil Revenue Tax) and revising another (the Petroleum and Gas Revenue Tax – PGRT) to allow for capital costs as well as operating costs (see page 4). It further recommends that, by agreement between Ottawa and the producing provinces, the modified PGRT rate be allowed to

> ***"...economic growth and development for the benefit of all Canadians – keyed to efficient resource management – should be the primary objective of energy policy in Canada."***
>
> *Connections*

> ***"The critical challenge confronting governments is to devise an energy strategy and implement policy measures that...will result in the most beneficial utilization of Canada's energy resources."***
>
> *Connections*

rise and fall along with world oil prices, thereby acting as a cushion against world market instability.

has become less pressing lately, with growing excess capacity in the Middle East, and with Canada's reduced dependence on oil from that source. The development of frontier oil potential and of efficient conservation technologies would be further security measures. In addition, with an eye to protecting eastern Canadians who remain the most heavily dependent on oil supplies, the Council suggests adopting a modest storage policy. It notes as well that measures to improve the economics of Canada's heavy oil upgrading capacity would enhance security as well.

> *"...it is possible to develop an energy strategy for the future that can integrate both economic and noneconomic objectives without sacrificing any one of them in any way."*
>
> *Connections*

The consultation process

Even with a clearer delineation of management responsiblities, consultation between the two levels of government will remain essential, the Council says, since federal powers and responsibilities – for trade, the overall economy, national security and so on – impinge on provincial resource development. The past decade witnessed a serious breakdown in the consultative process, with devastating results for federal-provincial cooperation and public confidence. The Council believes that process needs to be revived, and so proposes the establishment of a permanent federal-provincial Council of Energy Ministers, to meet formally at least once a year. It also suggests that this Council consider the creation of a Secretariat for a trial five-year period, to co-ordinate consultation with private sector interest groups.

Canadian ownership

Canadian ownership and control in the oil and gas sector has been a major policy objective for some time. There are certain short-term costs in pursuing this goal, the Council warns: in the past it has contributed to the debt situation of Canadian energy industries, as well as to declining foreign investment. In the Council's view, Crown corporations such as Petro-Canada have a role to play in this regard. So, too, does the private sector. Policies should therefore aim at encouraging Canadians to invest in the equity of petroleum companies operating in Canada, and should provide a built-in mechanism favouring the more successful ones.

Self-sufficiency

The fundamental issue here, the Council says, is security of supply – particularly oil supplies. That concern

Oil, gas and electricity

The broad outline of Council proposals to improve efficiency in these three sectors has been discussed on preceding *Au Courant* pages. In addition to recommending price deregulation for oil and gas, the Council calls for improvements in federal taxation, both on provincial lands and on Canada Lands (the areas owned by the federal government). Lastly, the Council proposes a change from grants to refundable tax credits on Canada Lands. Implementation of its major recommendations, the Council's economic model indicates, would improve overall economic performance without increasing the federal deficit.

A more systematic and comprehensive regulatory framework would benefit the electricity sector. As well, improvements are needed in utility financial and pricing policies. Given the current uncertain outlook for the CANDU nuclear system, the Council also suggests that the federal government should provide funds to keep the technology alive for the next five years, pending the outcome of a full inquiry into the industry's future.

STEERING THE COURSE

Unemployment and the federal deficit are the key problems facing Canada, despite good economic growth in the past year. In its *Twenty-First Annual Review*, the Council examines these problems and some of the options available for dealing with them over the medium term.

The strong economic recovery in the United States has provided some of the stimulus for the Canadian economy but, on a negative note, slower growth in other industrialized nations has been a moderating force. Throughout the world, the recession has left a legacy of large public and private sector indebtedness, high unemployment, and concern about the impact of technological change.

Worrisome, too, is the pattern of the Canadian recovery. While the economy has moved above its prerecession peak, investment remains weak and unemployment persists in double digits. Investment in new plants and equipment has been discouraged by high real interest rates, excess capacity, and the level of corporate indebtedness (although business indebtedness has been reduced in the last year or so). Instead, companies have been restructuring their balance sheets as the recovery has progressed. In the United States, by contrast, investment activity has been strong and unemployment has improved substantially in the recovery.

Federal government deficits in both countries have generated considerable debate. No longer is it generally accepted that deficits will disappear with full employment. Instead, attention is turning to an examination of structural issues, and the effects of high real interest rates on future economic growth prospects.

The base-case projection

The medium-term outlook depends on many things. The base-case projection is the Council's judgment on what is likely to occur between 1984 and 1990, based on economic policies in place in September.

Here are the highlights:

- Real economic growth will average about 3.1 per cent for the rest of the decade, with the exception of a growth pause in late 1985 and 1986 (see the first chart). The pause will not be another recession; rather, it is part of the normal growth slowdown of the business cycle and will be linked closely to an expected slowing of economic activity in the United States;
- Employment growth will average about 2 per cent, except during the 1986 slowdown, and should stay slightly ahead of growth in the labour force. That should translate into some downward movement of the jobless rate over the medium term;
- However, the unemployment rate will remain in double digits until near the end of the decade (see the second

The outlook for the economy

Selected economic indicators, using three scenarios

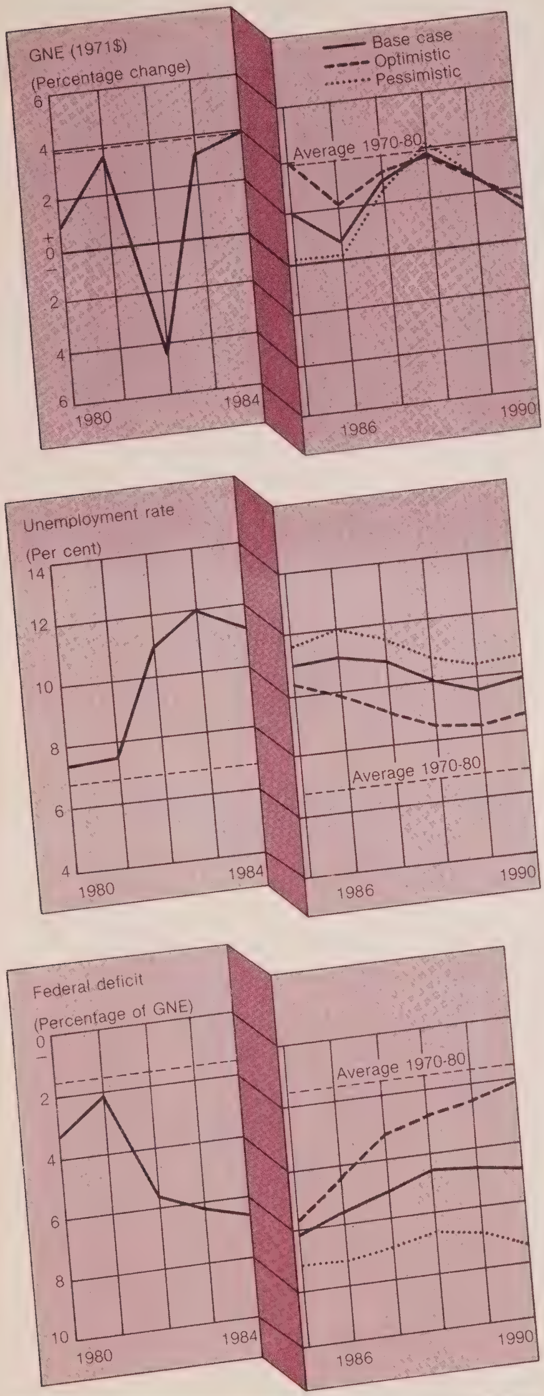


chart). It is not expected to drop below 10 per cent until 1987-89;

- Inflation will continue its downward trend, staying below 5 per cent for the rest of the decade;
- Labour productivity will grow by about one per cent a year until after the 1986 pause. The rate of growth is expected to nearly double after that;
- The personal savings rate will remain close to 10 per cent until 1986;
- The level of the federal deficit is not expected to show much of a change (see the third chart). The ratio of the deficit to Gross National Expenditure (GNE) will drift downward to just below 5 per cent barring direct action;
- The surplus on the current account balance will start to deteriorate and move into a deficit position of between 0.5 and 1.5 per cent of GNE by the end of the decade.

Alternative outlooks

Canada's economic performance could turn out to be better or worse than the base case. Key factors will be the handling of the U.S. deficit, investment spending in Canada, fiscal policies adopted by both countries, and the level of personal savings.

The optimistic scenario assumes lower U.S. interest rates, lower Canadian savings, and higher investment than in the base case. The pessimistic scenario assumes higher U.S. interest rates, higher Canadian savings, and lower investment than in the base case.

The highlights of the alternative outlooks include:

- Real growth ranges from an average of 3 per cent (for the optimistic case) to 2 per cent (for the pessimistic case) because of the mid-decade slowdown (see the first chart);
- Unemployment is about 8.5 per cent for the optimistic scenario, and remains at about the present level in the pessimistic one (see the second chart);
- Inflation drops below 3 per cent in the optimistic case, and averages about 5 per cent in the pessimistic scenario;
- The federal deficit, as a proportion of GNE is reduced to about 2 per cent in the optimistic outlook, while it climbs to 7 per cent in the pessimistic alternative (see the third chart).

The federal deficit remains sensitive to economic conditions because many of the transfer programs and the tax base are influenced by the private sector's activity. Higher interest rates have had a significant influence on deficits because a higher proportion of expenditures is required to service the debts. And, for investment, even the optimistic case does not show tremendous growth.

The simulations carried out indicate the importance of addressing the U.S. deficit and its implications for Canada. If the wrong choices are made in the United States, the economy could come to a standstill and move North America into a recession for the third time in six years. This could have serious repercussions for the Canadian economy. On the other hand, the outlook could improve. Fiscal measures in the U.S. allowing a reduction in interest rates would benefit Canada and the mid-decade adjustment would not be intensified by tight credit conditions.

It must also be noted that the assumptions used in the base case and alternative scenarios incorporate monetary and fiscal policies that were in place prior to the September election in Canada and the Finance Minister's economic statement in November. New policy directions for the economy (and the energy sector) will likely affect the medium-term projections contained in the Annual Review.

The employment picture

The persistent high rate of unemployment can no longer be attributed solely to the recession. Clearly, other factors are at play, including a changing labour market, new and different employment opportunities, and a wealth of new technologies.

A key element is the growth and importance of the service sector in creating jobs. More than 70 per cent of the Canadians who work have jobs in services. The largest impact has been on women and young people, one-third of whom work part-time, primarily in the service sector.

The growth of service activities, says the Council, has probably contributed to higher frictional unemployment – the unemployment that results from workers moving between jobs or in and out of the work force. Structural unemployment, which is associated with seasonal joblessness or unemployment due to technological change, has also increased and is usually of longer duration. This situation intensified as the baby boom generation and older women flooded the labour market, as unemployment insurance was made more generous, and as new labour-saving technologies were adopted.

It is estimated that technological change slowed employment growth between 1971 and 1979 by about one per cent a year. However, Council research shows that the decrease was more than offset by employment growth stemming from increases in demand, which averaged about 4.2 per cent annually through the same period.

All sectors of the economy will likely be affected by technological change in the future, but it is extremely difficult to try to predict how, and at what pace, these new developments will be implemented.

Some general estimates were devised using the Council's CANDIDE econometric model. As population growth slows, and the population ages, future economic growth will likely be slower than in the 1960s, but stronger than in the late 1970s. The strongest employment growth (barring major unexpected developments) is expected to be in energy-related industries and non-residential construction. The slowest employment growth is expected to be in fisheries, forestry, manufacturing, and trade. The Council says that "technology plays a role in shaping the pattern of employment growth, perhaps not only in the most visible way – the emergence of totally new occupations combined with the decline of old ones – but more through changes in the functions, expertise, and work instruments within occupations."

New technologies will increase output and productivity, as well as lead to higher personal incomes and additional expenditures, savings, and jobs. Adoption of new techniques and processes is not expected to cause revolutionary disruptions in employment patterns, but structural unemployment and demand deficiencies will be continuing problems that governments will have to address.

The public debt: cause for concern?

Governments have spent increasing amounts of money to provide the services demanded by Canadians: education, health care, pensions, and support for the poor, the aged, and the unemployed. Between 1952 and 1983, the amount that federal, provincial, and local governments spent on every man, woman, and child rose from $438 to $7,200. Government revenues – mostly from taxes – have not risen enough to keep up with these expenditures. And as a result the federal deficit (on a national accounts basis) stood at $24 billion in 1983.

The majority of the government's revenue comes from taxes. The slowdown in the rate of growth of income tax revenue is the combined result of slower economic growth in the 1970s and of a decline in the government share of increases in real personal income, due to changes in personal income taxes and of various tax expenditures. Had the government collected the same proportion of the increase in real personal income in the 1975-83 period as in the 1960s, it would have secured $40 billion in extra revenue. Had Canada's real growth rate and the marginal revenue collected been higher, the extra revenue brought in over that period would have been close to 100 billion dollars.

The largest amount of spending goes to social services, followed by debt charges (see chart). So far, the debt and the cost of servicing it have not presented serious problems for the federal government, but it is clear that increased spending and reduced revenues are a recipe for trouble in the future. There are many who worry that government deficits and debt management have an impact on interest rates by crowding out the private sector. At current debt levels, and under recent economic conditions, this does not appear to be a problem in Canada, although deficits limit the government's ability to undertake new expenditures.

There is a need to stabilize the level of public debt outstanding so that the increasing debt charges do not lead to a self-sustaining deficit. There is no magic level for the ratio of public debt to GNE. Using the base case assumptions (with interest rates of between 12 and 14 per cent), a debt-to-GNE ratio of 53 per cent would emerge by 1990, and 31 cents of every tax dollar would go towards servicing the public debt. On the other hand, at a 65 per cent debt-to-GNE ratio, two-thirds of tax revenues would be devoted to the pay-

ment of debt charges, and newly issued debt might be insufficient to cover new debt charges. However, the solution does not lie simply in strong economic growth and a reduction in interest rates. At this point, more will be required to make a substantial dent in the deficit.

Increasing indebtedness is also a growing problem for the private sector. In 1981, almost one in five small independent firms had more debt than assets. The debt-to-asset ratio of firms of all sizes – not just smaller ones – rose, indicating that the problem was getting broader, not narrower. Borrowers favoured shorter-term arrangements as a result of volatile interest rates and fluctuating inflation. However, since then, the situation has shown some signs of improvement.

Corporate indebtedness becomes a problem when firms cannot afford their debts. One indication of this is the amount of operating revenue spent on interest payments. In 1982, corporations spent, on average, more than half of their income on interest payments. By 1983, that had dropped slightly but remained at an historically high level.

The international debt problem also affects the Canadian economy. The chartered banks are active abroad and nearly 40 per cent of Canada's bank assets, plus a slightly higher proportion of their deposits, are in foreign currency. This large international involvement has also increased their sensitivity to international developments.

The difficulties that many less developed countries (LDCs) are having in repaying their debts has affected banks in Canada. In 1982, these nations had $600 billion outstanding in debts, with Canada's exposure estimated at between $20 and $25 billion ($15 billion of that with the "big four" debtors: Mexico, Venezuela, Brazil, and Argentina). Exposure to Mexico and Brazil together account for more than 120 per cent of the capital of the Bank of Montreal and 160 per cent of the National Bank's. Any partial write-off of these loans would have a significant effect on the chartered banks. More realistically, according to the Council, the impact of the international difficulties "reduces the profitability of Canadian banks, particularly in their foreign lending operations."

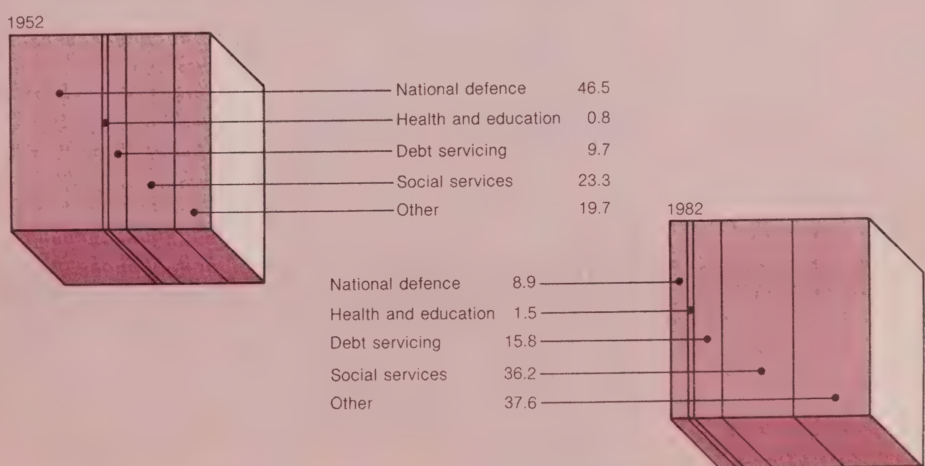
However, the banks have made a great deal of progress in the past year in strengthening their capital base. Further, they have been encouraged to make adequate provision for possible losses on their international loans. It is possible that, in the future, the banks may become more cautious in both their international and domestic activities – at a time when their full and aggressive support is needed to strengthen the economic recovery.

Debt overhang continues to constrain the expansion of world trade, with a spillover into Canada's economic expansion prospects. In April, the International Monetary Fund (IMF) was slightly more optimistic than it had been about the international debt situation. "The conclusion is reached that most groups of LDCs can achieve adequate rates of growth of [gross domestic product] while restoring a manageable position with respect to their current accounts and debt service burden." Critics have said this scenario is too optimistic and the higher interest rates or a serious growth pause would be significant.

The long-term solution requires solid economic growth worldwide, along with trade opportunities for the LDCs to help them meet their debt service obligations. The Council urges the Canadian government and banking system to continue working within the IMF and other international groups to find a solution to the problem of international indebtedness. As well, in the Council's view, the government has a chance to increase confidence domestically among investors and financial institutions by encouraging the strengthening of the financial and equity base of Canadian financial and nonfinancial corporations.

A look at government spending

Relative share of certain federal government expenditures, 1952 and 1982



Creating jobs and reducing the deficit

As a possible strategy, the Council (using the CANDIDE economic model and the assumptions for the base case) simulated the effect a combined effort to create jobs and reduce the deficit would have on Canadian taxpayers. Reducing the unemployment rate by one percentage point (to 10 per cent) in 1985 and 1986, would require a $3 billion spending program. To continue the program for the period from 1987 to 1990, would require an additional $8 billion. Part of the cost of the program in the initial two years would be offset by additional personal income and other tax revenues from a wider tax base. However, in subsequent years, negative offsets would cause a rise in the federal deficit.

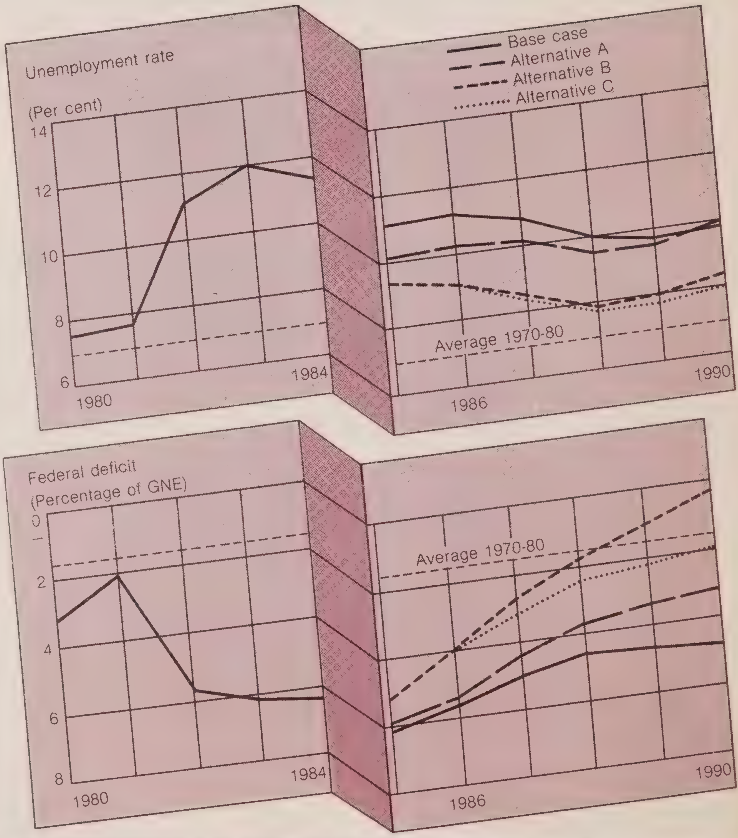
A program of this kind might be combined with some tax increases. They would cover the direct costs and also leave room for some deficit reduction. Further simulations were carried out to examine this. In Alternative A, the assumptions were: the spending on jobs plus a 3 per cent increase in personal income taxes in 1985, followed by a 2 per cent increase in the following year. The result would be an unemployment reduction of one percentage point and a deficit reduction of $1 billion a year. If the program were continued from 1987 to 1990, by increasing taxes by 2.5 per cent each year, the deficit could be cut in half by 1990, to close to 3 per cent of GNE. However, while tax increases would lower the deficit, they would also dampen growth and, by 1990, the unemployment rate would return to double-digit levels, despite the extra spending for job creation.

Tax increases are not the only way in which to fund job creation and/or skill upgrading. Programs could be trimmed in other areas or there could be a combination of spending cuts, tax increases, and a redirection of existing funding. Further simulations were carried out to test other theories. In Alternative B, the assumptions from the optimistic case were used (presuming stronger investment, consumption, and exports than in the base case). It also assumed that personal taxes would increase in Canada (by 2.5 per cent a year), and that the U.S. would enable interest rates to drop by seriously tackling its federal deficit. In this simulation, the federal deficit (in Canada) would fall to 2 per cent of GNE after 1987, and to 1 per cent in 1990. At the same time, unemployment would drop to 8 per cent by 1987.

In Alternative C, the assumptions change slightly. If Canadians were willing to accept a federal deficit of 3 per cent of GNE in 1990 (approximately the same level as in the late 1970s), tax increases would not be needed after 1986, and unemployment would be further reduced.

These simulations are not intended to be definite policy recommendations. But they show that unemployment and the deficit can be reduced together, without inflicting extreme pain on Canadians. However, this presupposes that the United States would implement policies to reduce its deficit, which would give Canada lower interest rates, increased investment, stronger consumer demand, direct job creation programs, and redirected or new fiscal resources equivalent to a personal tax increase of about 5 per cent, phased in over two years (beginning in 1985).

The impact of deficit-reduction and job-creation strategies, 1980-90



Targets and guideposts

The Canadian economy has shown good growth during the past year and, despite the pause expected in 1986, the medium-term prospects look relatively bright. However, over the medium term, governments must take steps to restore investor confidence, tackle the federal deficit, and deal with the persistent high rate of unemployment.

In this Annual Review, the Council traces the growth of the role of governments in the economy and the financial difficulties they have faced as economic growth slowed and inflation increased. Governments, business, and financial institutions overextended their fiscal reach, and many corporations ended up with large debts and cash flow problems. These led to cuts in expenditures, reductions or postponements of investment, and an increase in bankruptcies. At the same time, Canadian consumers started saving more, spending less, and paying down their mortgages. Unemployment climbed and started to affect workers who had never before been affected by layoffs or spells of unemployment.

The Council concludes that "the prospects for renewed economic vitality are sound, provided that Canadians have the confidence and the will to act, and that the international setting turns favourable." Of foremost importance, in the Council's view, are measures to get people back to work and policies to bring down the federal deficit.

There is little doubt that the new government faces a dilemma. There are many programs that Canadians want and which they expect their governments to provide – and these programs are costing more and more. At the same time, marginal rates of corporate and personal income taxes have not risen enough to cover the increased costs. Increased tax expenditures, the transfer of tax points to the provinces, slower economic growth, and the recession have contributed further to an erosion of the federal tax base.

In the *Twentieth Annual Review* (see *Au Courant*, Vol. 4, No. 2), the Council set out a package of targets for medium-term performance of the Canadian economy. The goals set were more ambitious than the outlook for the same period. This year, a sixth target has been added (see box), calling for a lower deficit. Attainment of the targets is not impossible; it will, however, require effort and cooperation by governments, business, and labour.

In the Council's view, it is possible to improve the unemployment situation and lower the federal deficit simultaneously. The most attractive route would combine some spending cuts with revenue increases over several years.

For unemployment, as with the deficit, there are no magic remedies. The number of Canadians looking for work has increased faster than jobs have been created. Of the jobs that have been generated, the majority have been in service industries and the initiative has come from the private sector – mostly from small and medium-sized businesses. In the short term, it is likely that the federal government will have to undertake some of the initiative, by boosting opportunities in the service sector, and by working more closely with the provinces to identify, develop, and match jobs, skills, and training.

TARGETS

1. Productivity growth of 1.5 to 2.0 per cent a year.

2. Employment growth of 2 to 3 per cent a year in order to lower unemployment to a range of 6 to 8 per cent.

3. Annual inflation of 5 per cent or less.

4. Net capital inflows of less than 2 per cent of GNE.

5. The maintenance and improvement of existing social policies.

6. A gradual reduction of the deficit as a percentage of GNE.

Unemployment needs to be addressed more efficiently to get help to those who need it the most. The Council has previously recommended a close examination of the Unemployment Insurance compensation system, with an eye to channeling some of the funds in more effective ways. This year, the Council has urged the government to establish a commission or parliamentary task force to examine the options available for providing jobs and income security for the unemployed.

The federal deficit has not yet reached the point of severe trouble for Canada. However, to avoid real problems down the road, there is no doubt the deficit must be lowered. The Council's view is that deficit reduction should be done gradually and through a combination of spending cuts and revenue increases.

The Council sees only modest room for expenditure savings other than those from possible changes in the profile of the population. Some savings may be found by moving away from universal to more selective programs. However, the Council believes that most Canadians would prefer to see their contributions to such programs increase rather than see the benefits or coverage diluted or removed. No doubt there are other programs that could be managed more efficiently or whose usefulness has been outlived.

However, the fact remains that, at the federal level, most of the budgetary shortcomings are on the revenue side. Therefore, it is likely that Canadians will have to accept the proposition that additional revenues are going to be required to start reducing the deficit – and that means tax increases. In terms of how much of GNE goes to taxes, Canada ranked fourteenth in 1982 out of 23 OECD (Organization for Economic Co-operation and Development) countries. The timing and extent of tax increases will depend on the economic climate. The Council's simulations suggest that "with luck, a favourable international environment, the restoration of domestic business confidence, and a timely mix of job-creating expenditures and tax increases," both unemployment and the deficit could be lowered significantly by the end of the decade. If the measures are taken during a time of stronger economic growth – when real incomes and employment are expanding – then the burden will be less painful for all Canadians.

WORKING TO IMPROVE
CANADA'S POLICY PERFORMANCE

That has been the chief concern of the Economic Council of Canada since its creation as an independent advisory body in 1963.

Over the past two decades, the Council has focused on public policy issues of key importance to Canadians – including economic growth, the role of new technology, the impact of government regulation and the changing job market, to name only a few.

The Council pursues its goal of improving Canada's economic performance in three ways:

Consultation

Members of the Council, representing a wide cross-section of Canadian society, meet regularly with governments and groups to study, analyse, and make recommendations on significant economic issues.

Research

An expert staff originates research and provides background information on a variety of topics, with particular stress on the medium- and longer-term problems of the Canadian economy.

Information

The need for better information on economic issues has led the Council to place strong emphasis on its contact with the public, through the use of topical publications, speeches, conferences, workshops and media relations.

Economic Council of Canada

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Ottawa, Ontario
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Economic Council of Canada
Volume 5, No. 4, 1985

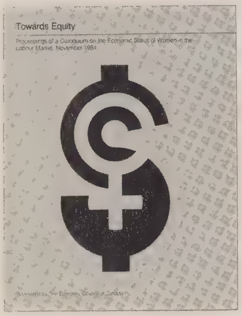
au courant

Women in the labour market

Council launches new project on tech change

PUBLICATIONS

Colloquium Proceedings



Towards Equity: Proceedings of a Colloquium on the Economic Status of Women in the Labour Market, November 1984. (EC22-126/1985E; $9.95 in Canada, $11.95 elsewhere).

Also Available...

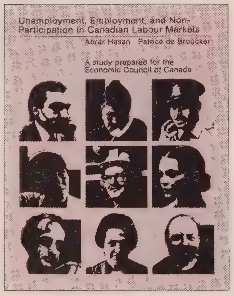
Government Enterprise: Roles and Rationale. Papers Presented at a Symposium Held in Ottawa, September 1984.

This publication is free of charge, and can be ordered from the Communications Division at the Economic Council of Canada (address below).

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). One new title has been published since the last issue of *Au Courant*.

Unemployment, Employment, and Non-Participation in Canadian Labour Markets, *by A. Hasan and P. de Broucker*. (EC22-125/1985E; $8.95 in Canada, $10.75 elsewhere).



Discussion Papers

Discussion papers are typically of a technical nature and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 274 "Financing Oil and Gas Exploration and Development Activity," *by B. L. Scarfe and E. W. Rilkoff*.

No. 275 "Employment Instability in Western Canada: A Diversification Analysis of the Manufacturing and Other Sectors," *by H. Postner and L. Wesa*.

No. 276 "Economy-Wide Implications of Alternative Energy Sector Tax and Pricing Policies: Simulations with the MACE model," *by S. Gera and M. MacGregor*.

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Canada, K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion Papers, *Au Courant*, and the *Annual Report* are available without charge from the Communications Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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Volume 5, No. 4, 1985

au courant

Towards Equity

A report on a recent Colloquium held to discuss the economic status of women in the labour market:

Au Courant est également disponible en français.

The major reports featured in *Au Courant* reflect the viewpoint of the Economic Council.

Research studies, discussion papers, and other background papers are prepared for the use of the Council by members of its staff and others. The findings of these reports are the personal responsibility of the authors. Neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

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TOWARDS EQUITY

One of the most remarkable developments of the past few decades has been the unprecedented surge of women into the Canadian labour force. It was awareness of the far-reaching implications of that continuing trend – along with the realization that, in the words of Council chairman David Slater, "compared with other disciplines, economic science has not paid much attention to the issues raised by the increased involvement of women in Canadian economic life" – which led the Council to develop a modest research program on the economic status of women in the labour market.

As part of that project, a Colloquium was held late last fall, to provide a forum for the exchange of ideas and the discussion of "policies to ensure that women as well as men are able to benefit fully from their participation in the labour market." At the Council's invitation, some 100 specialists gathered in Montreal to talk about issues ranging from daycare to equal-pay principles. The papers presented over the three-day period have been collected in a volume of proceedings, entitled *Towards Equity: Proceedings of a Colloquium on the Economic Status of Women in the Labour Market, November 1984*. (For ordering information, see publications page.)

The Colloquium proceedings are highlighted on the following ten pages, by means of summaries of speeches and discussants' responses, as well as by presentation of some observations made by participants in the course of discussions from the floor.

The Colloquium began with a description of some of the characteristics of the female labour market and an introduction to the issue of women's financial status. Professor Jeannine David-McNeil, of Montreal's École des Hautes Études Commerciales, pointed out that the female participation rate has more than doubled over the last three decades. If that rate is maintained, by the year 2000 about half of the workforce will be women, and their participation rate will be less than 15 percentage points below that of men. For many women, work outside the home essentially means holding two jobs, and policies are needed to help them get access to the market and to cope with the load they must bear.

Three out of four women's jobs are in the service sector. The feminization rate has risen in all industries, including those traditionally dominated by women, which have increasingly become female "ghettos." Such concentration has created problems of oversupply – and hence low wages and female unemployment – and it underlines the need to discuss measures to encourage occupational diversification.

The area of part-time work might be considered another female "ghetto." Close to three-quarters of all part-time workers are women. A large majority of them work part-time by choice because of family responsibilities. The results of that choice, however, are low wages, poor fringe benefits, and limited job security. The Commission of Inquiry into Part-Time Work has made proposals about fair wage levels, prorated fringe benefits, and pension plans.

The present business cycle aside, unemployment rates tend to be higher for women than men, reflecting in part such factors as less seniority, less labour market experience, and concentration in a limited number of occupations and industries. Policies to combat structural unemployment, such as retraining, occupational diversification, and job creation in female-dominated occupations, may be required to improve their situation. Microelectronic technology can be expected to have an enormous impact on jobs in the service sector, where women are highly concentrated.

The financial status of women is a major concern. The male/female earnings gap has diminished somewhat, but women's earnings remain well below those of men. This could be the result of oversupply in female-dominated sectors or of women's concentration in poorly paid occupations. The limited degree of unionization and the large number of women working part-time may also have an effect. There are some income disparities that, at the very least, raise the question of discrimination even if they do not prove that discrimination exists.

Daycare

Another significant characteristic of the female labour market is that by 1984 almost half of all mothers with

preschoolers were in the labour force and that proportion was growing. All had to have care of some kind for their children. Slightly fewer than 90 per cent use informal arrangements; the rest use daycare. Daycare is expensive, which explains the demand for universal subsidies rather than subsidies for just the poor. Michael Krashinsky, associate dean of Scarborough Campus at the University of Toronto, argued in his presentation that daycare subsidies are inefficient. It would be more effective, in his opinion, to make the costs of child care fully tax-deductible and, beyond that, to reduce the high rates of taxation on working mothers. Subsidies in excess of deductibility are justifiable only under the assumption that parents are not devoting sufficient resources to their children. If that were so, then such subsidies should be available for all children, not just those whose mothers work and choose to use formal childcare arrangements.

Professor Krashinsky argued that the present estimates of between one and two billion dollars for the costs of universal subsidies for the children of working mothers are too low. Costs would depend on whether the service would be made available only to the present number of preschoolers or on whether it is assumed, more realistically, that free daycare would encourage more mothers to go to work and to demand an extension of the service to include children up to age 12. If, in addition, it is assumed that unionization will spread and salaries will increase as governments' contributions rise, then costs could run as high as three, six, ten, twenty or even forty billion dollars (if daycare wages rise to the level of those of public-school teachers).

Full subsidization would lead to the overuse of formal daycare, as mothers using informal, unsubsidized services would switch to formal ones, and as nonworking mothers would be induced to enter the labour force whether or not their earnings were sufficient to cover the costs of the service. With full deductibility, on the other hand, mothers who cannot earn more than the cost of daycare would not be encouraged to enter the labour force.

To ease the tax burden, Professor Krashinsky suggested that exemptions for children be raised dramatically, that either parent be allowed to claim them, and, of course, that the costs of child care be fully deductible. Such measures would be preferable to acceding to the politically popular demands by overtaxed mothers to get relief through subsidies.

Discussant Nicole Boily, coordinator of community services at the University of Quebec at Montreal, objected to a neutral approach to daycare by governments. Instead, she advocated a more interventionist policy, though one that would continue to respect freedom of choice. Like education and health care, daycare should be an integral part of the social system. It benefits working parents, helps to ensure the proper development of children, and is a prerequisite to the right of women to enjoy the same employment opportunities as men.

Government intervention in daycare does not necessarily mean free service for all, as is evident from the Quebec system. Ms. Boily suggested that tax measures like those proposed by Professor Krashinsky would be elitist: they would correct the financial inequities of

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Are daycare subsidies a good idea?

working mothers with good salaries, since the degree of assistance would increase with the level of earnings, but they would not help parents in lower-income groups. A comprehensive, high-quality daycare system that could keep up with today's needs would require not only fiscal measures like tax deductibility, but also direct government assistance.

Floor discussion

Professor Krashinsky's arguments in support of child care subsidies met with some reaction from the floor. Participants expressed concern about the impact that his proposal could have on single-parent families, who, it was argued, would benefit more from a vertical redistribution of income than from his scheme. In reply, Professor Krashinsky noted that introducing greater progressivity into the tax system would require political action. Therefore, he confined his analysis to the question of achieving equity within specific income classes.

Ms. Boily answered several questions on group daycare, including whether it had proved to be the most popular option among parents and whether child care subsidies should be given to parents or directly to daycare centres. In response to the former question, she observed that over the past few years increasing numbers of parents have chosen group daycare as the form providing the greatest opportunities for socialization, development, and stability. With regard to the latter question, she said that since universal daycare would be possible only through state planning and organization, subsidies should go to the centres rather than to parents, who could be given financial assistance when necessary.

Paid parental leave

It is logical that paid parental leave should have become an issue, because a majority of women of childbearing age are now in the labour force, most of them holding full-time jobs. Those eligible for maternity leave are paid 60 per cent of their previous earnings (up to a ceiling) for 15 weeks under the unemployment insurance scheme. The current objective, according to consultant Monica Townson, is to get 95 or 100 per cent of previous earnings, not just 60 per cent, payable over a longer period and with reduced entry requirements. Benefits should be paid to either parent in order to enable men to participate in domestic labour in the same way as women participate in paid work – an option that has been available to adoptive parents since January 1984. Many examples of more generous schemes exist in Europe. Some unions have already obtained paid parental leave for their members through collective bargaining, and equity suggests that there should be a national policy in Canada.

The arguments against such a policy are that children are private goods for whom the state has no responsibility, that a national program would cost too much, and that it would encourage women to have more children.

If paid parental leave were negotiated as part of a package of benefits offered by employers in the private sector, then, given their occupational distribution, too few women would be eligible. Ms. Townson therefore favoured extending the maternity provisions of the unemployment insurance scheme. The costs would depend on which maternity provisions would be implemented and what percentage of the population would take advantage of them. A generous scheme could raise annual costs by nearly $1 billion.

The existing maternity leave is financed by employers and employees. If there continues to be no contribution from the government, then, according to Ms. Townson, a program extended to 26 weeks at 95 per cent of maximum insurable earnings, with an entrance requirement of 10 to 14 weeks, and used by 70 per cent of the eligible population would add about 31 cents and 43 cents to the maximum payments made by employees and employers. In other words, they would pay $2.30 and $3.22, respectively, for each $100 of weekly insurable earnings (currently $425).

Achieving such a policy would not be easy. There are objections to having any maternity benefits in the unemployment insurance scheme. A payment of 95 per cent for maternity and 60 per cent for other kinds of unemployment could be described as inequitable. If the government contributed, the deficit would increase. There would be objections to burdening businesses, especially small businesses, with increased costs.

Discussant Peter Hicks, of Employment and Immigration Canada, raised the question of whether, in view of the dramatic increase in labour market participation by mothers with young children, one can claim that the existing parental-leave arrangements have been a significant deterrent to partici-

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New leave proposal involves both parents

pation. He considered that the increased cost of a program such as that proposed by Ms. Townson would be the main obstacle to implementing changes, and he regarded an increase of 30 or 40 cents per $100 of insurable earnings as a major hurdle for businesses in the present economic climate.

He wondered whether unemployment insurance is the appropriate vehicle for such a program, but he noted that in the past it has shown the flexibility needed by such a policy. Moreover, now is a good time to make such a proposal, since the entire unemployment insurance scheme is about to come under parliamentary review.

Floor discussion

Ms. Townson was asked a variety of questions on her proposal for a paid-parental-leave system. The concept and viability of involving both parents in infant care interested a number of participants, who queried whether it was a realistic option, given prevailing male attitudes towards household responsibilities. Ms. Townson stressed the need to affirm the principle of parental leave by involving fathers from the outset and warned against erecting barriers that would prevent their participation.

The question of the role of unions in achieving better leave programs was raised as well. One participant drew attention to progressive legislation passed in Quebec in 1980, providing public-sector workers with generous maternity benefits. Ms. Townson applauded the gains made by unions in this area, but she emphasized the importance of progressing beyond present ad hoc arrangements to a national system of parental leave.

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Women are entering traditional male enclaves

Occupational diversification

Many authors blame the concentration of women in a small number of occupations for a considerable part – as much as 40 per cent – of the male/female earnings gap. Policies to diversify women's occupations, therefore, should help to close that gap.

Diversification can occur either when women move into male-dominated occupations or, conversely, when men move into female-dominated sectors. In his presentation, Jac-André Boulet, of the Economic Council of Canada, pointed out that, in fact, it is the former that is bringing about the increasing diversification now under way. The proportion of women under 40 entering male-dominated professions is increasing perceptibly. Interestingly enough, during the 1970s, the greater the male majority in a profession, the greater the tendency of women to enter it. Moreover, it was in these professions that women's incomes increased the most. At the same time, however, larger numbers of women moved into the 20 least-well-paid professions, offsetting some of the progress elsewhere.

At the present rate, by the year 2000 about 29 or 30 per cent of the supply of labour in male-dominated professions could be female, compared with 16 per cent in 1971 and 23 per cent in 1981. Women have a long way to go before their proportions in various occupations will approach their share of the workforce.

Owing to the importance of occupational diversification in explaining the income gap, governments have, over the last 15 years, enacted a series of measures to encourage women to increase their education and diversify their areas of specialization.

Policies aimed at eliminating the male/female gap in earnings do not have to focus exclusively on male-dominated professions. Women should be encouraged to train for any profession where salaries are above the market average, including more responsible positions in female-dominated occupations.

Mr. Boulet ended his presentation with a list of policies to counter the decline in the number of women participating in the various training programs. They include increasing financial assistance, enlarging the definition of non-traditional employment to include any profession with more than 50 per cent males (rather than two-thirds), emphasizing occupations where salaries are above average, and developing a national program of educational leave to which women could get access. Counselling and information services could be improved, and steps could be taken to ensure a more equal division of family responsibilities – by improving child care services and parental-leave policies, for example.

Educating women is an important factor in reducing the male/female income differential, but discussant Roslyn Kunin, of Employment and Immigration Canada, rejected it as a sufficient condition on the grounds that women's education is subject to diminishing returns. Occupational diversification, too, is important, but by itself it may not solve the problem either. This led to a discussion of other factors that have been suggested as causes of the differential. Ms. Kunin rejected family structure as a main cause of women's lower incomes. The current economic slowdown, on the other hand, and the resulting excess supply of workers will make it very difficult for women to break into non-traditional fields. Improvements in the economic situation will be necessary to help close the

earnings gap, in Ms. Kunin's opinion. To complicate matters further, technological change is increasing the excess supply of workers in traditionally female fields. A further requirement, if the income gap is to be closed, may be political and attitudinal training for women.

Floor discussion

The question of training programs, particularly in non-traditional occupations, generated considerable interest. When asked why female enrolment in federal government training programs is on the decline, Ms. Kunin explained that many women are still reluctant to enter non-traditional fields. Better career counselling at the high school level might help overcome their diffidence, she suggested.

Another participant observed that women equipped with non-traditional skills tend to meet with hostility from their male co-workers. She foresaw the need for government intervention to ensure women access to certain occupations or, alternatively, the enforcement of affirmative-action and equal-pay measures. Mr. Boulet agreed with this observation and stressed the need for much more research in this area, particularly in terms of charting the progress and problems of women in non-traditional occupations.

Explanations of this gender segregation are of two kinds: those which focus on students and those which focus on programs. The differences among students include differences in aptitude and achievement, both of which tend to be small and to favour women, at least until the end of high school. There is debate about the existence of sex-based differences in mathematics and spatial abilities. It is clear, however, that the overlap in ability and achievement is much greater than the overlap in course enrolment and labour market participation. Personality differences have been proposed as an explanation, insofar as women are said to differ in attributes like confidence, anxiety, aggression, fear of success, and independence. Lack of family support for girls entering non-traditional areas may have an impact, as may young people's attitudes towards gender.

As for program characteristics, some researchers suggest that more common-core programs would lessen the amount of differentiation. The number of compulsory core courses, such as mathematics, could be increased, to ensure that girls have the necessary prerequisites for study in non-traditional fields.

Professor Gaskell believes that policies to help achieve sexual equality in education must begin with an improvement in the collection, analysis, and dissemination of data. Governments could provide resources to encourage efforts to attract women into a broader range of programs. A decentralized, multifaceted approach is necessary, starting at the high school level. The various initiatives need to be evaluated, and information about the successful ones must be disseminated.

The educational system and family traditions are jointly responsible for conditioning girls for a dependent role, and discussant Madeleine Delaney-LeBlanc, chairperson of the New Brunswick Advisory Council on the Status of Women, believes that building a non-sexist educational system requires more than providing equal access at all levels. Equal results are also needed, in her view, which means graduating girls from various programs in numbers representative of their proportion in the educational system. The first requirement for carrying out such a policy is more data. The means of improving the system include positive interventions – such as introducing a compulsory core in mathematics, science, and computer science – and affirmative actions, such as hiring female teachers at all levels who can serve as role models. There is also a need for corrective actions – countering sexual stereotypes in school texts, for example – and political assistance in the form of leadership and financing, to help bring about gender neutrality in education.

Education

Concern about the role of education in occupational segregation was reinforced by speaker Jane Gaskell, professor on the Faculty of Education at the University of British Columbia. Educational institutions start all students off at the age of 5 in the same curriculum, but as a result of streaming, girls opt for programs that lead to lower-paying jobs and sexually segregated occupations, even when their formal level of schooling is the same as that of boys. That differentiation parallels, and is a response to, the differentiation in the labour market.

Accurate data on the extent of segregation by gender in the great variety of existing institutions and programs are difficult to come by. It is clear, however, that there are substantial differences in enrolment patterns and that these differences begin in high school, where girls tend to drop out of mathematics and the sciences.

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Waking girls up to the value of maths and sciences

Floor discussion

The importance of maths and sciences for girls at the elementary and high school levels concerned a number of participants. One recommended establishing career workshops with female teachers as role models for girls studying these subjects. The need to improve guidance counselling, especially with respect to non-traditional training, was stressed as well. Professor Gaskell agreed with these suggestions, adding that the implementation of compulsory core programs beyond the Grade 10 level in maths and sciences would further benefit female students.

Also mentioned was the importance of changing girls' attitudes towards their education and careers – particularly with regard to their assumption that they will not have to earn their living on a full-time basis but instead will leave the workforce to raise a family. Her discussions with students on the subject, Professor Gaskell noted, suggest that this attitude stems more from practical concerns about combining job and family responsibilities than from a traditional view of women's role.

Equal-pay policy

From the role of education in perpetuating segregated occupations, the discussion turned to the role of comparable-worth legislation in eliminating the existing female/male wage differentials that result from occupational segregation. According to Professor Roberta Edgecombe Robb, of the Department of Economics at Brock University, such differences may be at least as important, quantitatively, as wage discrimination in explaining the wage gap within occupations.

The criterion for assessing the value of work in a given establishment, according to the Canadian Human Rights Act, is the composite of the skill, effort, and responsibility required in the performance of the work, and of the conditions under which the work is performed. According to the economic theory of perfect competition, workers in jobs with the above characteristics will have similar production levels and hence will, in the long run, tend to earn the same wages. Consequently, the equal-value concept can be considered to have some foundation in economic theory.

But wage differentials may exist in competitive markets for reasons other than discrimination – for example, in cases of a shortage or oversupply of workers in a given area or in certain high-risk or unstable jobs. If these possible causes are not identified and women's wages are raised purely on discriminatory grounds, this could result in reduced employment opportunities for women. Because these factors are difficult to identify and to weight, Professor Robb advocated caution in enforcing the legislation.

If wage differentials between jobs of equal value are correctly diagnosed as discriminatory, then the effects of enforcing the legislation will depend on how occupational segregation and occupational differentials by sex occur. There are several models that purport to explain this. Becker's model, for example, suggests that discrimination may occur because employers, employees, and/or customers may be prejudiced and may want incentives to compensate – incentives that will lead to male/female wage differentials. The "statistical discrimination" hypothesis suggests that profit-maximizing employers will discriminate against women if they believe them to be less-productive or less-stable employees, on average, than men. That belief may be quite unfounded; but right or wrong, it can lead to wage differentials, occupational segregation, or both. Recent empirical work indicates that intermittent work experience may result in lower current earnings because of deterioration of skills and forgone appreciation of earnings attributable to lost experience while out of the labour force. This explains why women who expect to be out of the labour market may opt for jobs where that deterioration is least and may thereby reinforce occupational segregation and cause overcrowding and lower wages.

Whatever the source of the earnings differentials, enforcement of the legislation may make women who keep their jobs better-off. Others who might become unemployed, however, and who might have to compete for other women's jobs in the economy – possibly at lower wages – could be worse-off. Furthermore, higher wages resulting from enforcement of the legislation could attract male competition for these jobs.

On the question whether equal-pay-for-work-of-equal-value legislation will achieve its objectives, Professor Robb suggested that it can help to correct anomalies in cases where the Human Rights Commission accurately diagnoses discriminatory differentials in wages. But it is an open question whether it can make substantial inroads in reducing these differentials, particularly since at present the principle exists only in federal and Quebec legislation.

If, on the other hand, a large part of the differential is attributable to the segregation of males and females into jobs with different requirements and characteristics, then the impact will be smaller. In such cases, Professor Robb suggested, policies such as equal opportunity, affirmative action, and contract compliance might be needed to change the occupational structure itself.

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Equal pay for work of equal value?

Floor discussion

A varied number of questions and comments followed Professor Robb's presentation. Several participants believed she should have put more emphasis on the benefits of enforcing equal-pay legislation, such as greater productivity, higher wages leading to more consumer spending, and further occupational diversification.

Other participants suggested that enforcing affirmative-action principles may be more effective an approach than implementing equal-pay measures. Professor Robb stressed the need for both methods, on the grounds that the former benefits new entrants to the labour force, while the latter helps older women who lack opportunities for further training.

Fringe benefits

The data do not exist for accurately determining fringe benefits by sex. Lawyer Louise Dulude suggested in her presentation, however, that what information is available indicates that the typical recipient of generous fringe benefits works for a large organization in a highly unionized industry. This description fits only about a quarter of Canada's working women, compared with 55 per cent of working men. Fringe benefits have grown more quickly than direct pay, which could mean that, contrary to current assumptions, the total wage position of women relative to that of men has been deteriorating.

The most important fringe benefit, accounting for as much as 10 to 20 per cent of employers' total labour costs, is pay for time not worked – that is, for vacations, holidays and other time off. It seems safe to conclude that men benefit more than women, because benefits like longer vacations accompany higher status and seniority, both of which favour men. By contrast, more than one-third of part-time workers – most of whom are women – are not entitled to prorated vacations, while more than one-quarter do not get prorated holiday benefits. Ms. Dulude suggested that labour laws require the prorating of vacations and holidays for part-time workers.

Pension plans – private plans, as well as the Canada and Quebec Pension Plans (CPP/QPP) – account for about 5 per cent of employers' labour costs and are the next most important fringe benefit. The average male pensioner draws as much income from employment-related pensions as from Old Age Security and Guaranteed Income Supplements, whereas the typical retired woman is much more dependent on government-paid pensions. As a result, incomes of elderly women are considerably lower than those of elderly men. While there is no significant evidence of sexual discrimination in pensions, there may be discrimination because of family status. The effect is to exclude homemakers from government pensions. Women's groups have been working to change homemakers' status in the CPP/QPP from that of dependants entitled only to surviving spouses' benefits to that of workers in their own right, who can contribute to the pension plan.

Other problems with pension plans result from women's inferior status in the paid labour market. For example, small numbers are eligible for private pensions, and many have low incomes, leading to low levels of benefits. Private pensions have limited portability because they tend not to be vested for ten years; and since women have a higher rate of turnover and drop out of the labour force more often than men, they are less likely ever to collect them. That is why a modified form of the CPP/QPP is recommended as the vehicle for improving women's employment pension plans.

Ms. Dulude concluded that without better information on fringe benefits by sex, we cannot have a clear idea of whether women in the labour force are gaining ground, falling back, or holding their own.

Lawyer Christine Fagan, a discussant, also expressed concern about the lack of data that would enable analysts to use the total income package (including benefits), rather than just wages, when comparing the relative positions of individuals or groups within the labour force. Benefits are increasing; the data indicate that their costs for an average employee rose from around $500 in the early 1950s to nearly $9,000 in 1984, when they amounted to one-third of total payroll costs. While it is logical to assume, given the occupational distribution of men and women, that men have benefited more, additional data are needed to determine the extent of their gains.

The scope of coverage by pension funds, indexing, and payments to the elderly poor are current problems of


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Women rely heavily on government pensions

government pension plans. The proposals to extend pensions to cover homemakers are coming at a time when it is apparent that the contribution rate to the Canada Pension Plan will have to be raised if the fund is not to be exhausted in 20 years. Private pension plans are now concentrated in large firms, and that makes it difficult for women to get full access to employer-sponsored schemes. Access could be improved, according to Ms. Fagan, if the pension schemes designed by insurance companies specifically for small businesses were to become more generally available.

Floor discussion

The discussion of fringe benefits centred mainly on the question of pensions. One participant drew attention to the potential future growth in private plans – both through the expansion of existing plans (such as registered retirement savings plans) and through the development of "money purchase"

plans (a form of portable pension enabling employees to transfer pension credits from one job to another). Because many women are not in a position to take advantage of these plans, she said, increased support for public pensions is imperative.

The notion of pensions for homemakers also interested many participants. One observed that since this kind of plan would exclude many needy women, alternative proposals benefiting a wider low-income group would be preferable.

Tech change

There is a general consensus that microelectronic technology will have a major impact on the employment of women. In 1982, according to the paper prepared by Professor Stephen Peitchinis, of the Economics Department at the University of Calgary, about 87 per cent of women were employed in service activities. This sector will be significantly affected by microelectronics and particularly by the development of networks of computers and telecommunication technologies.

On the positive side, such networks will help to reduce frictional unemployment and improve the allocation of human resources. Further, they will provide women who take leave from the labour force with the means to update their skills, and they will give them information about the labour market. The organization of work, too, will be affected. Flexible hours will become more feasible as computer linkages increase, and so will the choice of where to work – in an office, at home, or in a neighbourhood telematic centre.

The results of technological change are unpredictable: it simultaneously destroys and creates products and processes, and it renders redundant some knowledge and skills while requiring new ones. Insofar as employment is concerned, at the microeconomic level technological change has brought about changes in structure and decreases in employment; at the macroeconomic level the effects have been positive and employment-creating. The effects on employment have been mainly indirect, however. Historically, no technology in itself has been a major source of direct employment in its design, production, and operation. Instead, technology has contributed to increased productivity, decreased costs, and increased incomes, which has led to increased demand and an expansion in general economic and social activity. Professor Peitchinis said that the employment opportunities created by microelectronic technology appear increasingly to favour women.

Why, then, is there such pessimism concerning the employment effects? Half a dozen reasons are suggested, among them the technical capacity of these new microelectronic instruments (which may be able to compete with human intelligence and not merely physical attributes, as in the past), together with the pervasiveness of the potential applications. Another is the fear that the rate of destruction of jobs could be greater than the rate of their expansion.

Women, appropriately, are responding by acquiring more education and moving into non-traditional occupations. If they are to become more upwardly mobile, they must participate in writing and interpreting the rules of progression. One difficulty is that most working women are not organized for collective bargaining or have not negotiated contracts that will protect them against unilateral management decisions relating to the employment effects of technological change.

In discussing Professor Peitchinis's paper, Senator Lorna Marsden argued that he had passed too easily over women's concerns about the impact of technology. At the macroeconomic level, while technology on balance may give rise to jobs, the question is whether they will be created across Canada, in certain regions only, or outside the country. This is an issue, she explained, because women are less mobile than men. At the microeconomic level there is concern not only over job loss, but also over job quality. The potential danger of downgrading the status and pay associated with such jobs raises the prospect that there might be no room for low-skill workers to advance to medium-skill jobs. Senator Marsden expressed concern that as jobs are eliminated and downgraded, history will repeat itself and women will be affected first and most seriously.

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Tech change: are female workers at risk?

In a subsequent panel discussion on technological change, consultant Dorothy Walters said that, on balance, she was pessimistic about the future in this regard. She foresaw that job destruction will occur in the service industries as microelectronic instruments become cheaper and more efficient, and she noted that in many industries women will be affected first and foremost.

James McCambly, president of the Canadian Federation of Labour, acknowledged that unions are concerned about the way certain technological changes have been introduced in some areas. But they also recognize that technology has tended to bring broad benefits to workers in the form of reduced hours of work, better working conditions, and a better security net. He stated his belief that unions can help women to benefit from technological change. While the number of traditional jobs is declining, he expected that of the jobs that will emerge as a result of technological change, proportionally more will offer opportunities to women.

Technological changes promise to eliminate some of the physical-strength barriers built into certain jobs, and they should make work time more flexible. On the negative side are some potential ill effects, such as the boredom of some high-tech jobs. Of particular concern to unions is the displacement of workers in mid-career. Women are at particular risk in this regard because they currently hold many of the repetitive jobs that technology is likely to eliminate. Many of these industries, such as banking and retailing, are not highly unionized.

François Paradis, president of the Quebec Chamber of Commerce, pointed out the impossibility of predicting the vast range of possible new economic activities that could result from technical change, adding that he believed the forthcoming technological and informational era will create more jobs than it will destroy. Upheavals and major adjustments will be inevitable but necessary if our society is not to be left behind. He expressed optimism about the impact on women who, having experienced the pervasive changes wrought by their liberation movement, are flexible enough to adapt to the new technology and find a better role in the new economic environment.

Large numbers of women are vulnerable to the drive for improved productivity based on technological change. Technology has the potential for both good effects and bad, and consultant Ratna Ray underlined the need for public policy to nurture the positive effects. In the federal jurisdiction, the main legislative instrument facilitating adjustment is the Canada Labour Code, which encourages unions and management to negotiate on the issue of technological change. But the problem with labour legislation is that not much more than one-quarter of the women in the labour force are unionized.

Women in the federal public service remain concentrated in low-paying, dead-end jobs in the administrative and support category. Since the primary focus of technological change will be general office productivity, women will be at the forefront of the productivity drive. Ms. Ray recommended that all government departments and agencies establish a committee to monitor policies pertaining to technological change, to ensure that they are consistent with the Canadian Charter of Rights and that they do not have a disproportionate impact on women.

Floor discussion

An issue raised early in the discussion on technological change concerned the recent development of electronic cottage industries, whereby work on electronic equipment is done in the home rather than the office. One participant pointed out the dangers that this new activity could pose for women. Evidence from the United States, she said, indicates that employers are transferring routine work to people in the home to avoid paying regular wages and fringe benefits, to transfer many overhead costs to the employee, and to hinder the formation of unions. Ms. Ray agreed that women could easily be exploited in this fashion, and Mr. McCambly stressed the important role of unions in protecting women against unfair practices.

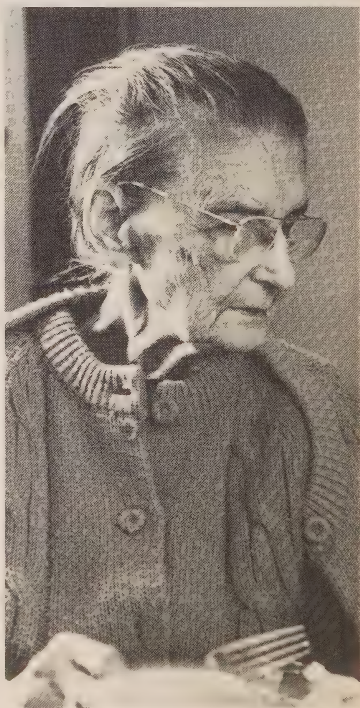
In other discussion, one participant commented that, according to recent European research, the structure and management of an organization can minimize or aggravate the impact of new technology. Professor Peitchinis concurred, adding that the importance of management policy in this regard means that women's progress in the workplace will depend on their participation in the decision-making process at the work-function level.

Future research

The role of the final panel was to point out the directions in which future research should go. Professor Nina Colwill, of the Department of Administration at the University of Manitoba, suggested a redoubling of research efforts on equal pay for work of equal value. It should be made the focus of attention of many different disciplines, not simply economics, she maintained. Given the centuries-old legacy of placing a lower value on women than men and given an economy of sex-differentiated labour (where more than 95 per cent of executives are male and more than 95 per cent of secretaries are female), a new kind of research appears to be required – research that will assume that the worth of work can be evaluated independently of the sex of the incumbent. Researchers must demonstrate the many ways in which the value of work in this country has been made a function of the sex of the worker, and they must focus on the criteria being used by those who set the values for various types of work.

Walter Block, a senior economist with the Fraser Institute, said that his concern lay with legislation on equal pay for equal work and equal pay for work of equal value. The effect of such legislation will be to replace market-determined wages by the edicts of bureaucrats, lawyers, and judges. Wages will then no longer be a sign of consumers' demands, and the flexibility and efficiency of the economy will be reduced. The intent of such legislation is to eliminate employer discrimination, but, argued Mr. Block, discriminatory practices by profit-maximizing employers do not explain income differentials. Such differentials are more likely to be the result of the way the incomes of married couples are reported, of the asymmetrical effects of marriage on incomes, or of the occupational choices made by women, which may be affected by marriage or the prospects of marriage. Given the similarity in the earnings of never-married women and never-married men, he suggested that more research be done on marital status as an explanation of the gap.

According to Jennifer Stoddart, research director at the Canadian Advisory Council on the Status of Women, society does not pay attention to the economic role of women but instead focuses almost exclusively on their social and cultural roles. The most obvious example of this has been the lack of recognition given to the economic value of work in the home. She pointed out that economists have neglected many other aspects of the role of women in the production and consumption process. Prostitution, for example, has been treated as a health hazard or a public nuisance, but it has been virtually ignored by Canadian economists, even though it is paid work constituting part of the contemporary


Linda Carrier

From inequality in her generation...

service industry. The pornography industry is another subject that has not been regarded as a legitimate area of study. Little economic research has been done on daycare and parental leave or on the impact of divorce on the economic welfare of members of families, notwithstanding the fact that one-third of Canadian marriages end in divorce.

It is important, not merely in terms of social justice but also because it is fundamental to the formulation of appropriate social and economic policies, that the economic role of women be identified and become the subject of economic research, she concluded.

Professor Martha MacDonald, of the Department of Economics at St. Mary's University, provided a list of topics for future research, including changes in the way work is organized and allocated between unpaid domestic work, paid work, and self-employment, since these modes alter the economic position of women. More information is needed on occupational diversification in existing jobs, in new jobs, and in jobs that are being transferred abroad. Technological changes and their effects on the quality of jobs and the allocation of low-skill and high-skill jobs also require research. To date, the individual has been used as the unit of analysis, but more attention needs to be focused on family employment and income patterns, and on the ways that paid labour, unpaid domestic labour, and self-employment are combined by the family unit. The effect of the state on male/female inequality and occupational segregation needs to be studied, and research efforts should be broadened to include the impact on women not only of labour market policies in general but also of economic policies overall.

Professor Ruth Rose-Lizée, of the Department of Economics of the University of Quebec at Montreal, stated that unemployment is the fundamental problem of women in the marketplace and that research and policies must be directed first and foremost to the problem of creating jobs with decent working conditions. She argued that full employment is a precondition for any significant improvement in women's economic status and for the achievement of income parity. Policies like adequate provision for child care and parental leave are necessary if women are to achieve equality in the labour force. In addition, such policies provide a means of increasing employment. But Professor Rose-Lizée contended that focusing on these policies and on encouraging entry into non-traditional employment, or on better training or positive action, will have little effect unless there are strong policies to restore full employment.

Linda Carrier

...towards equity in theirs

Floor discussion

The discussion following the panel presentations focused on two main topics: the issue of women's inferior labour market status, most graphically illustrated by the wage gap between male and female workers; and the key areas for future research.

Several participants disputed Mr. Block's contention that employer discrimination does not account for differences in male and female earnings. One drew his attention to research establishing the existence of a 5 to 10 per cent wage differential between men and women in identical jobs in the same enterprise. Mr. Block, however, argued that, because employers are keen to make profits, they are less likely to act in a discriminatory fashion towards women than are consumers or fellow employees. If women are equally productive and at a lower wage level than men, he contended, they will be hired first.

With regard to the question of future research, there was unanimity on the need for better and more extensive data, particularly in the non-market area. One participant outlined three key areas for future action: improvement in the data; changes in the approach to women's work and its economic values; and a sharing of the responsibility for parenting. While there are signs of improvement with respect to the first of these requirements, she said, insufficient attention has been paid to the other two.

A recurring observation made by analysts, and succinctly expressed by Judge Rosalie Abella in the course of an after-dinner address to participants, perhaps best sums up the mood and outlook of the Colloquium. In reference to issues raised by the recent Commission of Inquiry on Equality in Employment, of which she was commissioner, Judge Abella said: "The essence of equality for women, now and in the future, is that in their options . . . they face no greater economic liability than would a man, and that in whatever 'employment' environment they choose, they receive the same benefits for their contribution as would a man."

S·P·E·A·K·I·N·G · O·U·T

The Economic Council of Canada is carrying out a wide-ranging study on the impact of technological change on Canadian workers and managers.

Keith Newton, who is heading the study, says it will break new ground in Canada because of the broad range of issues it is tackling, the methods it uses, and the depth of factual analysis.

The study report, which is expected to be completed by mid-1987, will touch on such questions as the effect of technical change on jobs, regional disparities, earnings, job and skill training, and industrial relations.

As part of its research program, the project group will conduct a survey of the public and private sectors to see how they react to technical change and how they adjust.

To find out more, *Au Courant* recently interviewed Newton.

***Au Courant**: How big an impact is technological change having on the workforce?*

Newton: This, in fact, is the central question of the whole study. As you probably know, there are at least four different points of view with respect to this question. I have my own particular names for these. I call them the "doom and gloom" point of view, the "eternal optimism" point of view, the "adjustment and adaptation" point of view, and the "technical imperative" point of view. If I may, I will tell you what I mean by these. "Doom and gloom," as you can imagine, stresses the possibility of mass displacement of jobs because of technological change. The "eternal optimism" point of view is the kind that is very often expressed by certain members of my own profession, who say that if you wait long enough, in the best of all possible worlds, you'll get that beautiful equilibrium in the sky and everything will be wonderful. Then there is the viewpoint that I call "adjustment and adaptation," that says we may not be perfectly sure of the magnitude of job loss or job creation, but we do know that there's going to be a certain amount of dislocation in the economy. This approach looks at the consequences of those adaptation needs in terms of education and training, for example. Finally, there is what I call the "technological imperative," which says that while all of the above points of view are interesting and useful, the fact is that you can't stop progress even if you want to. Technological change is going to take place anyway, and we have to adapt to it and adopt it in order to remain competitive.

***Au Courant**: From your own studies at this point, would you say that new technologies do throw an increasing number of Canadians out of work and will do so in the future?*

Newton: Some workers undoubtedly will be displaced. That's part of the very nature of technological change – a process that has been going on for centuries. In the last hundred years, for example, the number of steam-train engineers and horse-drawn-buggy makers has probably dropped very dramatically. But at the same time the number of airline pilots and the number of computer engineers has increased very, very substantially. The improved technology also increases productivity and incomes. These higher incomes lead to more spending, and that creates more jobs. So the trick for the analyst is to try to anticipate not only the job-displacement effects but also the job-creation effects of technological change.

***Au Courant**: Who is likely to be affected most in the coming years by technological change – women, young workers, middle-aged factory workers, or others?*

Newton: Well, I think all three groups that you mentioned will encounter specific problems. Women will have difficulties because traditionally they have been quite heavily employed in sectors that are now being fairly hard hit. I am thinking, for example, of the traditionally female-dominated jobs in the clerical and stenographic areas, which are now being affected by office automation. In the manufacturing sector, we know that computerized machining centres and robots are making their presence felt in a num-

Keith Newton

ber of areas traditionally filled by skilled factory workers, so they will be under some risk. And from the point of view of young people, the important question is whether they will be able to get the general and vocational education to prepare them for the new types of jobs and skills that are unfolding.

***Au Courant**: Will the new technical skills wipe out middle-income middle-managers, as some suggest?*

Newton: As a matter of fact, there is some evidence that this is already occurring. A recent federal government study on the impact of informatics – and by informatics I mean the linkage between electronic data processing, telecommunications systems, and office automation – concludes that the impact of such systems in Canadian offices is already leading to an erosion of the middle-management function.

***Au Courant**: Is there any move at this time to deal with this particular problem? Should policy makers be considering how to cope with these losses, or are they just an inevitable occurrence?*

Newton: There's certainly an awareness in the federal and provincial governments that we've talked to, and in many of the large corporations across this country, that technological change doesn't appear on its own. It doesn't just come down like manna from heaven, but usually manifests itself in conjunction with quite wide-sweeping organizational changes. In fact, it is this interrelationship between technological change and organizational change that is at the heart of the adjustment problem for most large organizations.

***Au Courant**: We have spoken a little bit about this, but how will job skills change as a result of technical advances? What skills do you see as being most in demand in coming years?*

Newton: Well, there are a number of different occupational forecasts. You will recall some of the forecasts that we made ourselves in the recent Council labour market study called *In Short Supply* (see *Au Courant*, Vol. 3, No. 1). Not surprisingly, you'll find that a number of computer-related skills are likely to be in substantially high demand in the next five to ten years. The disconcerting factor, though, is that many of the occupations and skills that seem to be growing fastest are actually not heavily populated in terms of the number of people who are involved.

***Au Courant**: Could you mention a few examples?*

Newton: Well, we think that one of the fastest-growing occupations could be that of robot technicians, but the overall numbers employed there are in fact quite small.

***Au Courant**: Will you be looking at how technical change will be dealt with by management and labour in negotiations on labour practices?*

Newton: Yes we will. In fact, a very large portion of our study is devoted to the impact of technological change on the industrial relations system in general, and on collective bargaining in particular. We'll be looking at the issues as perceived by the labour movement. We'll be trying to find out to what extent collective agreements reflect the growing concern of the labour movement – in what way, for example, new clauses in collective agreements have come to reflect those issues and concerns. We'll be looking at such things as the need for prior consultation between management and labour before technological change takes place. We'll be studying issues of job security, the need for training and retraining on the part of workers, and the ways in which the benefits of the productivity increases that accompany technological change will be distributed between management and labour.

***Au Courant**: Are you examining the impact of technological change on employee earnings? If so, what questions are you looking at in this area?*

Newton: There have been some suggestions in magazine articles recently that we may be already observing the beginning of some substantial erosion in the middle ranks of the income distribution. The suggestion is that traditional middle-class jobs are being eroded because of so-called "de-industrialization" and because of the impact of technological change. We view these suggestions with a certain amount of scepticism, but we'll be checking them out fairly carefully to see whether these hypotheses are in fact substantiated in the Canadian case.

***Au Courant**: Is the Council breaking some new ground in this project?*

Newton: Well, I think there are a number of aspects of the project that are new. One is simply the scope of the project. I don't think there has ever been a project that attempted to deal systematically with all of the following questions simultaneously. These questions are: the likely magnitude of displacement due to technological change; the prospects for job creation; the impact of technological change on the distribution of occupations, skills, and income; the educational training consequences of these types of changes; the impact on the industrial relations system; and the way in which organizations are adapting to the impact of technological change. We're new, in fact, in the sense of being very comprehensive in our coverage. I like to think that we'll be new as well in stressing empirical analysis rather than armchair speculation, and I think we're new in Canada in our methodology. For instance, we hope to apply some econometric techniques pioneered in the United States. We will also use a survey of establishments to get specific information about how corporations and public organizations react and adapt to technological change.

"Technological change is going to take place anyway, and we have to adapt to it and adopt it in order to remain competitive."

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au courant

Economic Council of Canada Volume 6, No. 1, 1985

Tech change and jobs

- R & D subsidies off target
- Canada's new oil supplies
- Council members appointed

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council. One new title has been published since the last issue of *Au Courant* (ordering information below).

Structural Change and Industrial Policy: The Redeployment of Canadian Manufacturing, 1960-80, *by R. A. Matthews*. (EC22-127/1985E; $6.95 in Canada, $8.35 elsewhere).

Reprints

The following Council reports have been reprinted, and can be ordered according to the information below:

Newfoundland: From Dependency to Self-Reliance (EC22-85/1980E; $10.95 in Canada, $13.15 elsewhere).

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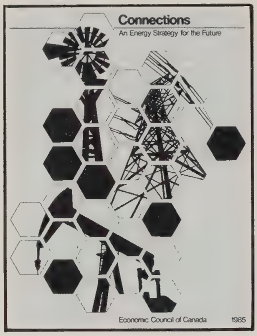

Discussion Papers

Discussion papers are typically of a technical nature and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 277 "An Economic Analysis of Government Investment Corporations, with Attention to the Caisse de dépôt et placement du Québec and the Alberta Heritage Fund," *by James E. Pesando*.

No. 278 "Western Canada's Coal Industry: Status and Potential," *by Brenda J. Dyack*.

No. 279 "Water and Economic Growth in Western Canada," *by Terrence S. Veeman*.

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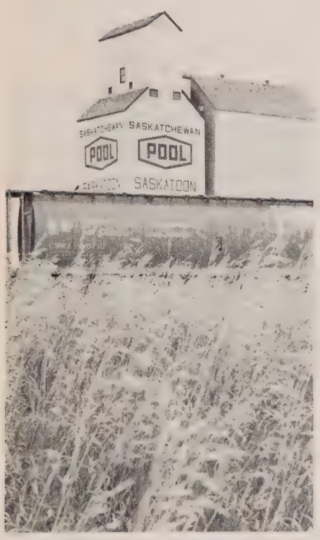

Au Courant est également disponible en français.

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Tech change and the job market

Will the newest wave of technological change simply wipe out thousands of jobs across a whole range of industries? Or will emerging technologies create enough new employment to offset any losses in the traditional sectors of the economy.

On this score, historical evidence concerning the impact of tech change on employment seems to be reassuring – new jobs invariably appear as outmoded ones vanish. Whether that pattern will continue in the future (which some analysts doubt) is a question currently under investigation in the Economic Council's new project on the impact of tech change on the labour market (*Au Courant*, vol. 5, no. 4). And Council researchers have come up with some early and interesting results.

Past patterns

Tech change is nothing new. In fact, it's been a force to reckon with since the late eighteenth century, when the Industrial Revolution began introducing new machinery, methods, and organization to the world of work. The resulting factory system, for example, radically transformed the meaning of work, its pace, and its rewards for literally millions of people. The development of the textile industry, railroads, steel, and steam in the nineteenth century hastened the transformation of society from a largely agrarian to an industrial one; and the internal combustion engine, the assembly line, and advances in chemistry and electricity sped up that process in the twentieth century.

This process of change was accompanied by massive shifts in the employment structure. As the chart on this page shows, over one-third of Canadian workers in 1911 had jobs in the primary industries (agriculture, forestry, fishing, mining and oil wells); by 1981, that proportion had dwindled to 7 per cent. The increasing industrialization that caused this decline is also reflected in the employment growth that took place in the secondary sector (manufacturing and construction) between 1911 and 1951. That has now levelled off, while employment in the tertiary sector (which includes transportation, communications, and utilities; trade; finance, insurance and real estate; community, business, and personal services; and public administration and defence) has rocketed from about one-third of all jobs in 1911 to two-thirds in 1981.

Present situation

Many observers maintain that a new industrial revolution is now under way, based on information processing, telecommunications, robotics, biotechnology, and advanced materials. They contend that the rapid pace of change in these new technologies and their diffusion could have a traumatic effect on the adjustment and adaptation of workers, and that more jobs will be destroyed than created. And they question whether, in today's bleak economic climate, the emerging technologies can provide enough jobs to offset the erosion of new job opportunities in the more traditional sectors of the economy.

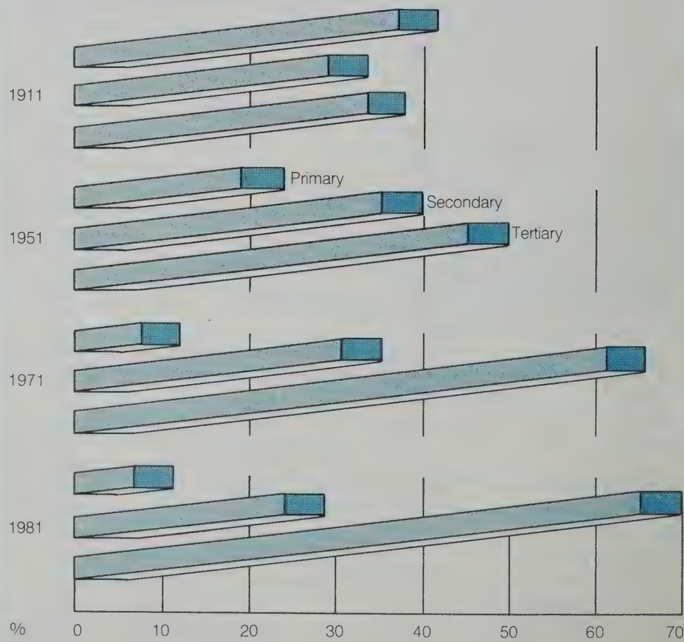
In the light of these concerns, researchers on the new Council project decided to examine the employment record of Canada's "high-tech" industries.

What's high tech?

While most people have a hazy idea of what constitutes a high-tech industry, Council researchers found it hard to pin down one unanimously accepted definition. Two, however, appear to predominate. The first, which might be called the R&D definition, accords the high-tech label to those industries with above-average ratios of research and development spending to total investment expenditures. The second, or Sci-Tech, definition includes those industries with large proportions of scientists, engineers, and technical employees. Since neither definition seems entirely satisfactory, Council researchers are currently developing

How employment has shifted over time

Employment patterns by industry sector in Canada, 1911-81



one, based more on the technological sophistication of the products produced and/or used by an industry.

In order to assess the high-tech employment record, Council researchers looked at a set of 33 industries fitting the Sci-Tech definition and compared their employment figures in the 1971 Census with those a decade later. These industries were first identified in a study undertaken for the Canada Employment and Immigration Commission.

Research results

The first major finding of the research team is that between 1971 and 1981 employment in the high-tech industries grew considerably faster than the 3.1 per cent average annual growth rate for Canadian industry as a whole. The second chart shows that the average yearly growth rate for the high-tech industries was 3.9 per cent. This result may be compared with U.S. figures for the period 1969-79, which show little difference between employment expansion in the high-tech sector and that in the economy as a whole.

Twenty of the thirty-three Canadian high-tech industries chalked up annual employment growth rates in excess of the all-industry average. Compared with the 3.1 per cent annual growth rate for the whole economy, a group of five closely related high-tech industry "stars" stand out. The Computer Services industry, with an annual average job creation record of 21.2 per cent per year, was clearly the leader, followed by Offices of Management and Business Consultants at 17.9 per cent, Miscellaneous Services to Business Management at 9.4 per cent, Engineering and Scientific Services at 7.9 per cent, and Offices of Architects at 7.1 per cent. However, these impressive growth rates must be placed carefully in perspective, Council experts warn. Inspection of the chart reveals that Canadian high-tech industries as yet account for only a relatively small (one-quarter) slice of the overall employment pie. The high-tech sector accounted for 23.6 per cent of total Canadian jobs in 1971 and increased that share to 25.5 per cent in 1981 (by contributing proportionately more than its share of the total jobs added over the decade).

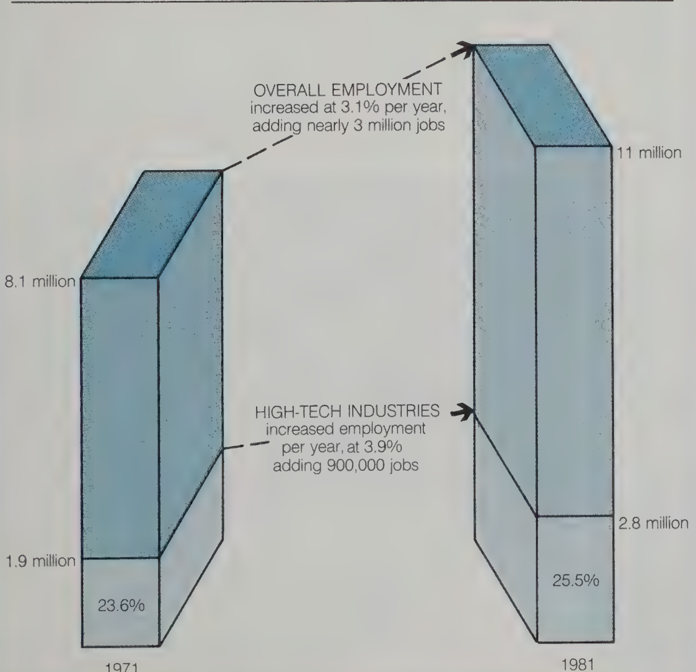
But even the aforementioned "star" performers in terms of rapid growth accounted for such a minor proportion of total employment that their contribution to job creation in 1971-81 was relatively small. Together, the five industries accounted for only 1.1 per cent of total Canadian employment in 1971. Thus the addition of 145,245 jobs in that group accounted for only 5 per cent of all new jobs created in the decade.

What's in store?

The 1981-82 recession led to a massive job loss: some 595,000 jobs disappeared between September 1981 and November 1982, for example. Though some employment gains have been made recently, staffing levels are still below pre-recession levels in some industries. Always bearing in mind that the prospects for improvement depend on the performance of all sectors, can high-tech industries improve the employment outlook? A prudent response would reflect guarded optimism, project researchers say. If the trend of the 1971-81 period were to continue, employment in the high-tech sector would continue to grow faster than employment in the overall economy; its share of jobs would thus increase and so, correspondingly, would its total addition to national employment.

Set against this are two disquieting considerations. First, dynamism and flux mean dislocation. The very process of change that creates new vistas for some will leave others stranded and desperate. That means policies must be framed to ease the trauma of workers in transition. As well, some analysts suggest that the quality of the unfolding employment structure may be changing in a fundamental way. Clearly, not all jobs in high-tech industries are high-tech jobs. But many may not even be "good" jobs. Even in Silicon Valley – the high-tech mecca of the United States – some production and assembly jobs are poorly paid. Furthermore, the new technologies are bringing new health and safety problems to the workplace. In particular, there are fears about the distribution of occupations. Many U.S. analysts maintain that future job growth will be at the top and bottom of the occupational ladder, while job opportunities in the middle will be eroded, with obvious consequences for income distribution. The Canadian evidence on this issue is as yet unclear. It remains a major challenge for Council research.

The employment record of the high-tech industries



More women now hold "male" jobs

Working women have made some impressive gains over the past decade in their quest for equal status with men in the labour market.

That progress is largely due to the career choices of younger women, who have made real inroads into the higher-paying, traditionally "male" occupations in recent years. Older women still tend to opt for the so-called "female" occupations that are often lower-paying.

In a study undertaken as part of the Council's modest research program on the economic status of women in the labour market, economists Jac-André Boulet (of the Economic Council) and Laval Lavallée (of the Canadian Industrial Renewal Board) use Statistics Canada census data to trace the changes that occurred in the labour market situation of women between 1971 and 1981.

Changes over the decade

Over the decade, the authors find, almost two million women entered the labour force – far more, proportionately, than did men. Just under half of those women – most of them under 40 years of age – chose occupations that were male-dominated in 1971. For example, the number of female doctors more than doubled over the decade, increasing from just under 3,000 in 1971 to 6,500 in 1981. Similarly, there were nearly 5,000 women lawyers in 1981, compared with only 770 ten years earlier; about twice as many university teachers; and about six times as many government administrators.

This younger group succeeded in pushing up the average earnings of female workers from 51.2 per cent of that for male workers in 1970 to 54.4 per cent in 1980. On an hourly basis (a more accurate measurement in the authors' opinion, since it excludes the differences in hours worked) female earnings rose to 72 per cent of male wages in 1981 from 66 per cent a decade earlier.

Gains offset

These gains would have been more significant, however, had they not been offset by the tendency of an even larger group of women (mostly over 40 years of age) to follow traditional occupational paths. Many of the jobs chosen by that group are poorly paid, the authors note. The numbers of women in the 20 lowest-paid occupations – babysitters, waitresses, and hairdressers, for example – increased over the decade, in some cases substantially.

The concentration of women in these low-salary jobs accounts for most of the persistently large difference in average earnings between the sexes, the authors say. As more and more women move into the well-paid "male" professions – and hence into the high-income brackets – that wage gap should narrow dramatically. The authors point to a 54 per cent jump in female university enrolment in the 1970s as an encouraging sign that this shift is well under way.

Problems remain

Boulet and Lavallée caution against complacency, however, in the face of recent improvements. A number of serious problems that affect women in particular – such as the poverty confronting the elderly and most single-parent families – demand enlightened policy action, in such forms as improved pension rights and stricter enforcement of maintenance support payments. Other concerns also require attention: adequate daycare, better training programs, and more diversified curricula for female students are some of the goals to be met if women are to improve their economic status.

The Changing Economic Status of Women, by Jac-André Boulet and Laval Lavallée (EC22-122/1984E; $6.95 in Canada, $8.35 elsewhere).

National Film Board of Canada

Women no longer choose only "female" jobs

Government R&D grants miss the mark

Each year private firms get millions of dollars from the public purse to help them finance research and development (R&D). Surprisingly, the government doesn't know if it's getting its money's worth (nor does anyone else).

The reason, according to a Council study of five R&D subsidy programs administered by the federal government, is that methods of selecting and evaluating R&D projects lack substance. On the whole, the study concludes, administrators of these programs simply fail to ask the right questions, making it impossible to determine effectively which projects warrant support and whether or not the benefits to society outweigh the costs of subsidization.

Council economist Abraham Tarasofsky, who undertook the study as part of the Council's research into technology and productivity (*Au Courant*, vol. 4, no. 1), bases his findings on a thorough analysis of the Enterprise Development Program, the Defence Industry Productivity Program, and three smaller subsidy programs.

The first two are administered by the Department of Regional Industrial Expansion; the others, by the National Research Council. And while each scheme has its own objective, all are intended to promote innovations in industry.

A suitable yardstick

Tarasofsky looks first at the rationale behind government subsidies and the practicalities of determining their effectiveness. This provides a suitable yardstick against which to measure the programs in question.

In essence, subsidies are supposed to encourage firms to undertake projects that are in the interests of society but would not otherwise be undertaken, usually because the costs to a firm exceed the returns it can expect within a reasonable time period. That, in itself, is one of the key guidelines that Tarasofsky recommends for determining the objective need for a subsidy and its optimal amount.

Other criteria include whether or not a subsidy would displace a similar project by another firm and whether or not it would benefit society at least as much as the cost of handing it out. The cost, when processing, financing and tax considerations are included, adds up to 81 cents on every dollar granted.

Tarasofsky's research also breaks new ground in describing a workable method for calculating the benefits to society of subsidizing private innovation. These gains, which he terms "inappropriable benefits," accrue as price reductions in the innovation's ultimate product and in the number of units sold over time – benefits that are measurable from the same data that companies produce to estimate their own returns from an R&D activity.

> ***The collective story to date has been one of failure to ask — let alone answer — the right questions.***

The results

Regrettably, these criteria have little bearing on the way that subsidy programs actually operate. Under the Enterprise Development Program, Tarasofsky studies six of the largest projects granted funding. Only one of them, he finds, comes close to meeting his suggested conditions, while the others "probably would have been pursued" without government aid.

The program's most striking administrative shortcoming – and one that applies equally to the other programs analysed – lies in its failure to consider the benefits to society of granting a subsidy and to determine whether the benefits exceed the costs. As such, Tarasofsky recommends adopting the guidelines identified earlier, arguing that this could be accomplished "fairly readily." He also calls for the development of a comprehensive monitoring and evaluation system as "an indispensable element of an efficiently administered subsidy program."

His analysis of three smaller subsidy programs led him to conclude that two (the Industrial Research Assistance Program and the Program for Industry/Laboratory Projects) lack adequate cost-benefit analysis. A third (the Technical Information Service), by providing information and advice to smaller firms that would otherwise go without, probably has a positive overall impact, Tarasofsky says.

Unique problems

The Defence Industry Productivity Program presents unique problems in that some of the data required for sound judgment of its effectiveness must be withheld for national security reasons. Also, projects of this nature are undertaken largely for export purposes, making it difficult to measure the resulting benefits to Canadian society. Indeed, the author has serious reservations about whether any such benefits do in fact accrue. And even by the program's own standards, a large proportion of the projects it supported "were probably failures," Tarasofsky reveals, adding that in many instances losses were allowed to grow beyond a reasonable limit.

Tarasofsky recommends that a public group – perhaps an all-party parliamentary committee – be empowered to oversee and review spending under this program. And because of the difficulties in assessing the benefits to society of subsidizing defence-related innovation, he suggests that the program shift its focus from subsidizing specific projects to supporting firms in general, to the extent that this is necessary to induce them to remain in defence production.

Collectively, the story to date with respect to Canada's R&D subsidy programs "has been one of failure to ask – let alone answer – the right questions," Tarasofsky concludes.

The Subsidization of Innovation Projects by the Government of Canada, by Abraham Tarasofsky (EC22-121/1984E; $7.95 in Canada, $9.55 elsewhere).

THE OUTLOOK FOR CANADA'

Is Canada doing a first-rate job of developing its ample oil resources?

That's a question the Economic Council raised in the course of its three-year study on energy (*Au Courant*, vol. 5, no. 3). It concluded that two major changes in domestic oil policy – tying domestic prices to world prices, and establishing more efficient tax and incentive structures for exploration and development – would boost oil production considerably.

As part of that investigation into the oil supply situation, the Council looked at the broad picture of costs, prices, and profitability for Canada's potential sources of new oil. The resulting case studies have been set down in a number of discussion papers, several of which are highlighted on the following three pages. (All were written prior to the recent federal/provincial energy agreement.) One deals with the prospects for frontier oil in the Beaufort Sea; another analyses the policy framework governing oilsands projects; and a third considers the viability of enhanced light-oil recovery from conventional pools in three Alberta projects.

The Beaufort Sea

The Beaufort Sea region is one of the key frontier areas currently under exploration for possible oil and gas production. The area is of particular interest in the unfolding of Canada's oil supply prospects because geographically it is the northward extension of the Western Basin, where most of this country's oil is currently being produced.

While prospects look good for the Beaufort, its remoteness, weather conditions, and consequent high exploration costs slow the pace of exploration. Inevitably, the companies making the investment and the federal government, which subsidizes it, are asking themselves whether their gamble will pay off. With that in mind, economists Peter Eglington and Maris Uffelmann, assisted by two Beaufort operating companies (Gulf Canada and Dome Petroleum) look at three key factors: the viable minimum project size, the potential for low-cost oil, and the effect of the fiscal system under the National Energy Program for frontier areas.

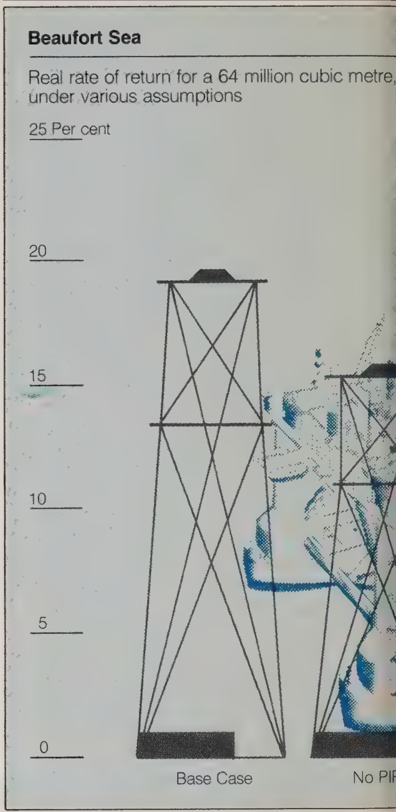
The authors determine the approximate minimum oil-reserve size that would allow for viable economic development – that is to say, the minimum size at which development costs (including production and transportation to Montreal) would break even with the Montreal oil price. Dome Petroleum calculations put this size in the range of 35 to 55 million cubic metres for a single platform development offshore, under the Canada Lands fiscal system prevailing at that time and assuming unchanging oil prices. The mid-range of this reserve estimate would mean about 280 million barrels.

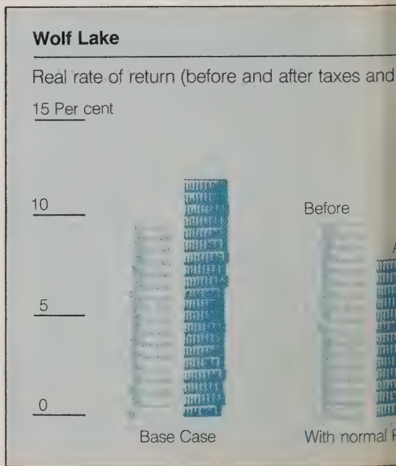
This estimate is interesting for two particular reasons, say the authors. First, smaller-scale "pilot" development, which is environmentally less risky and socially more acceptable, could pave the way for larger-scale development. Second, it increases the probability of economic supplies from the Beaufort, since small reserves are more likely to be discovered than large ones.

The authors also assess the potential for acquiring relatively low-cost oil from the Beaufort, assuming extremely favourable physical and economic conditions (however unlikely). They reach an optimistic conclusion in this regard, observing that "although the Beaufort oil play is extremely risky, it is entirely possible that the per-cubic-metre cost of oil will prove itself to be lower than other sources of oil in Canada." The authors estimate the lowest possible per-cubic-metre cost (excluding taxes and royalties) of producing and delivering this oil to Montreal, at between $10 and $15 a barrel.

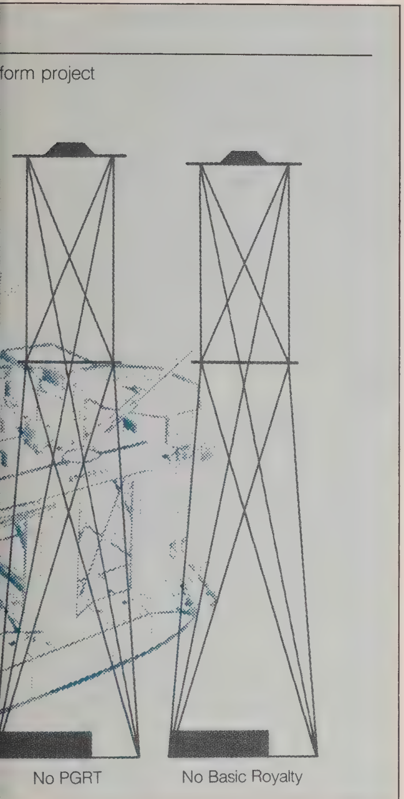
Finally, the authors evaluate the appropriateness of the prevailing Canada Lands fiscal regime for future development. The top chart illustrates some of their results for a single platform project. The "base case" assumes the existing Canada Lands fiscal regime is in play for the development cycle. That includes the Base Royalty of 10 per cent on gross revenue, the Petroleum and Gas Revenue Tax (PGRT) at 12 per cent on operating revenue, the 25 per cent government "back-in" provision (allowing the federal government a retroactive share in

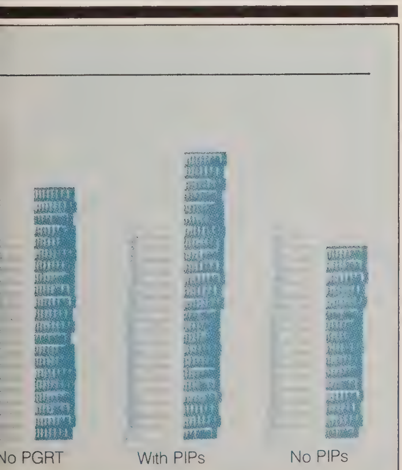
How a fiscal regime can affect profitab





NEW OIL SUPPLIES





the benefits of frontier development), the 40 per cent Progressive Incremental Royalty (PIR) on profits, and the 20 per cent Petroleum Incentive Program (PIP) on intangible development expenditures.

As a result of their overall analysis, the authors reach the following conclusions:

- The general outlook for the Beaufort is encouraging, given the feasibility of a relatively small threshold reserve size and the possibility of acquiring relatively low-cost oil.
- The Basic Royalty and the PGRT do not respond to changing economic conditions; the PGRT becomes particularly damaging when circumstances deteriorate, while under improving conditions it fails to capture a larger share of net revenues.
- PIPS are valuable primarily in the exploration phase of activity; thereafter, they do not appear to be all that important.
- The only fiscal mechanism that really works is the PIR, which is designed to collect revenues only if a certain level of profitability is reached; however, its effectivenes in taking a growing share of the profits is hampered by the deduction of the Basic Royalty and the PGRT.
- A more efficient system might result from replacing the PGRT by a PIR that would take effect at an earlier stage and at a lower profit level.

Oilsands

Oilsands policy has undergone some fairly radical changes over time, Eglington and Uffelmann found, when they looked into that particular source of new oil in another research endeavour. For the purpose of their analysis, the two economists assess two types of oilsands projects: a mining megaproject – Alsands – which has been shelved for an indefinite period, and an experimental *in situ* project – Wolf Lake – scheduled to begin production this year.

Alsands

This project did not go ahead for a number of reasons, including policy concerns. But the main reason for the deferral is that, at a cost of $315 per cubic metre (before taxes and royalties), the project would not be economically viable. The authors observe, however, that "to the extent that lessons were learned, there was perhaps some value in the effort."

Wolf Lake

This project is an example of the state of oilsands policy in 1983 and, according to the authors, gives evidence of "a more pragmatic approach to policy making and negotiation on the part of both government and industry". (BP Exploration Canada and Petro-Canada Exploration Inc. each hold a 50 per cent share in the undertaking.)

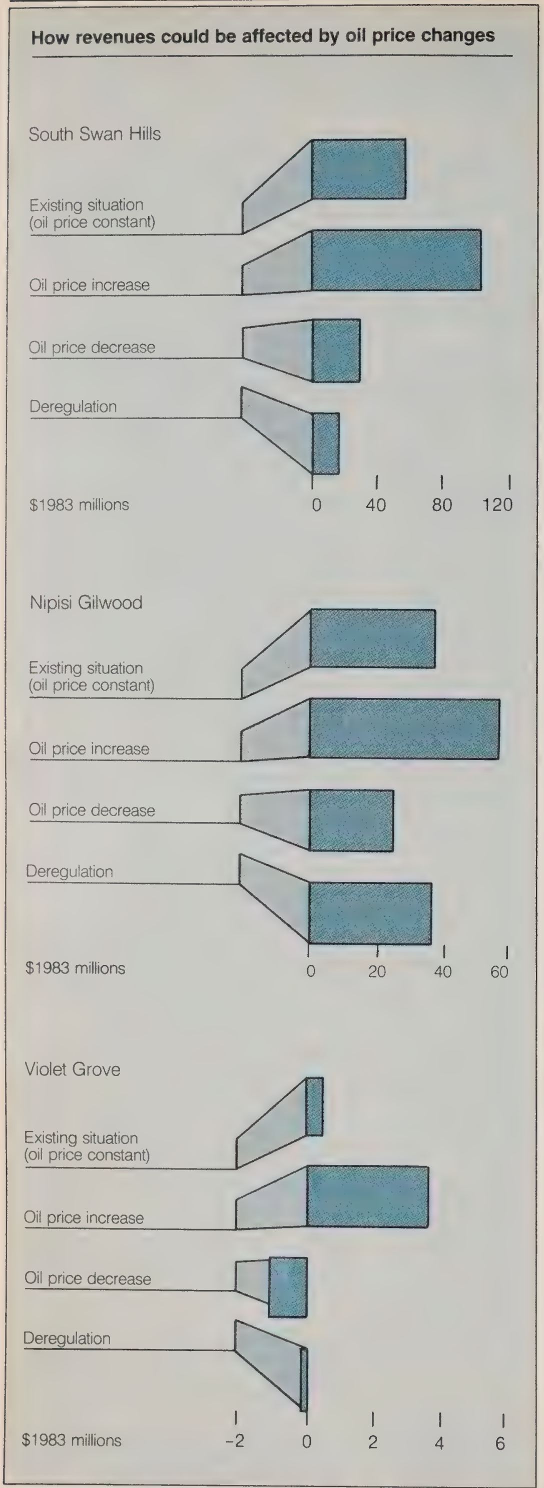
As Wolf Lake is likely to serve as a model for future oilsands projects, Eglington and Uffelmann carry out a thorough examination of the effectiveness of the fiscal regime governing the project, to determine whether it allows for the efficient collection of economic rents and responds well to changing levels of profitability.

The bottom chart illustrates some of their findings. The base case assumes that real prices and costs remain constant, under prevailing fiscal arrangements. The main conclusion to be drawn from their analysis (apparent in a comparison between the rates of return before and after taxes and royalties) is that "the fiscal regime is quite responsive to the economic conditions under which the project operates. As the conditions become more favourable, the governments receive more revenue."

The authors caution, however, that without an oil price increase, surplus revenues for governments are unlikely, while declining prices would render the project uneconomic. "Oil from the Wolf Lake Project is relatively high-cost oil," they warn, "and since there are a number of experimental features, the project is subject to potential technological failure."

"An Economic Analysis of Hydrocarbon Developments in the Beaufort Sea," by Peter Eglington and Maris Uffelmann. Discussion Paper No. 258.

"An Economic Analysis of Oilsands Policy in Canada: The Case of Alsands and Wolf Lake," by Peter Eglington and Maris Uffelmann. Discussion Paper No. 259.



Enhanced light-oil recovery

In another undertaking, economists Peter Eglington and James Nugent assess the cost of extracting light oil by means of a process known as "miscible flooding" (whereby a reservoir is flooded with fluids that mix readily with crude oil). Three projects in Alberta – at Violet Grove, Nipisi Gilwood, and South Swan Hills – were analysed to determine their economic viability, under both the fiscal system prevailing at that time and a variety of different assumptions.

The accompanying charts illustrate some of the results. Evidently, South Swan Hills and Nipisi Gilwood are currently very profitable projects, whereas Violet Grove is only marginally economic and, as such, riskier to develop. Under the prevailing fiscal system, the federal and, to a larger extent, the provincial governments skim off approximately 84 per cent of above-normal profits (or "economic rent") from South Swan Hills and Nipisi Gilwood, leaving about 16 per cent for the private sector. Surprisingly, the authors note, in the much less profitable Violet Grove, the governments take 95 per cent of above-normal profits, leaving the company with only 5 per cent. The authors ascribe this result partly to the impact of a particular royalty relief clause, which is less effective on low-productivity projects.

Changing oil prices

When real oil prices rise by 5 per cent a year, all three projects become more attractive; when real prices fall by the same percentage, Violet Grove ceases to be viable, but the other two projects weather the drop. All three are adversely affected by oil price deregulation, although Nipisi Gilwood and, to a lesser extent, South Swan Hills remain profitable. Deregulation has this negative effect, the authors explain, as a consequence of the accompanying shift to "new" oil (post-1974 oil) prices and royalties. With this change, pricing incentives in existence under the current old-oil/new-oil pricing policy are eliminated, and their disappearance is sufficient to make Violet Grove uneconomic. As well, royalties payable actually increase under deregulation, even though royalty rates decrease. The federal share of net revenues remains more or less the same, but the provincial share rises in all three cases, with Violet Grove being hit by the steepest increase (from 58 to 64 per cent).

Conclusions

The authors draw a number of conclusions from these findings. The deregulation results, they say, imply that as domestic oil prices approach world oil market levels, policy makers will need to ensure that economically viable projects are cushioned from the negative effects of deregulation. They also recommend a number of changes in the prevailing system of taxes and royalties, both to give a bigger boost to marginal projects and to handle fluctuations in economic rent more efficiently. The authors point out that it is in Canada's interest to encourage marginal projects, since the cost (before taxes and royalties) of their development is still less than the cost of imported oil. As well, they note, the province should take a larger share of the technological and economic risks of development, as well as the benefits, and should thus be receiving a larger slice of the revenue pie when returns are greater than expected and a smaller one when the reverse is the case.

"An Economic Analysis of Enhanced Oil Recovery in Conventional Light Oil Pools in Alberta," by Peter Eglington and James A. Nugent. Discussion Paper No. 260.

Electricity rates: a boon for consumers

Consumers of hydro-electricity in Canada have a super deal going for them.

They're paying much less for electricity than long-run production costs warrant, say Richard Zuker of the Economic Council and Glenn Jenkins of Harvard University, in a recent Economic Council publication.

Written as part of the Council's examination of federal-provincial fiscal relations – which culminated in a major report, entitled *Financing Confederation: Today and Tomorrow* (see *Au Courant*, vol. 2, no. 4) – the study measures the size and distribution of hydro-electricity benefits as they are reflected in above-normal profits or "economic rent."

Authors' approach

These benefits are harder to determine for hydro-electricity than for oil and gas, the authors note, since generally speaking they are not collected as revenue by provincial governments, but instead are passed on to consumers in the form of lower electricity rates. So Zuker and Jenkins develop a method of calculating these gains, by comparing the 1979 cost of the current systems including hydro, with the cost of the least expensive all-thermal alternative – a mainly coal or nuclear system.

The authors include in their estimates such elements as operating and maintenance expenses for hydro generation, transmission, and distribution; the cost of purchased electricity; and, most important, the cost of capital. They look at similar aspects of the all-thermal system.

They focus their analysis on Quebec, Ontario, Manitoba, and British Columbia, since these provinces generated 93 per cent of Canada's utility-produced hydro-electricity in 1979. But since they sell their electricity to other provinces as well, the authors also determine the benefits of low-cost hydro for electricity users throughout the country.

Results

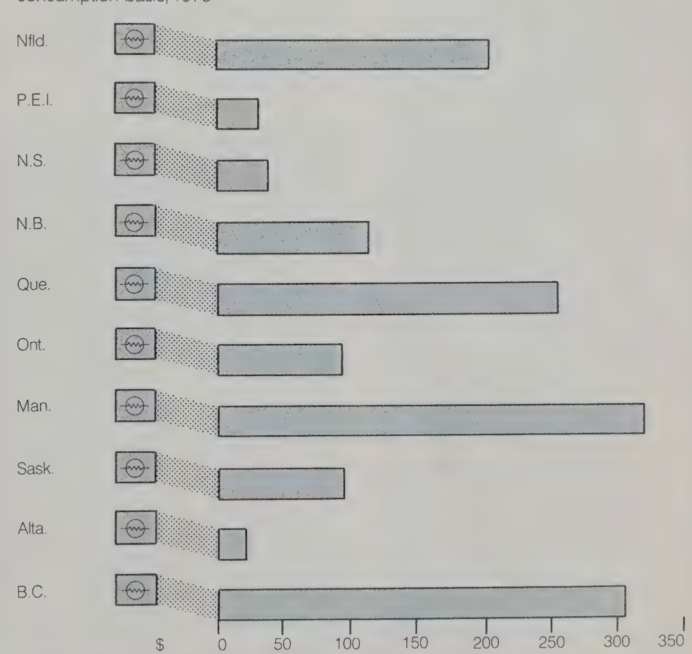
Their research led Zuker and Jenkins to reach the following conclusions:

- The "rent" generated by utilities in the four provinces studied – as evidenced by the difference in costs between the hydro and all-thermal systems – amounted to almost $4 billion in 1979. Quebec accounted for $1.8 billion; Ontario, for $753 million; Manitoba, for $522 million; and British Columbia, for $819 million.
- When these amounts are broken down into unit costs, the benefits of low hydro prices to individual consumers become very clear. The authors' calculations indicate that transforming benefits into unit costs and adding them to 1979 hydro revenues would more than double the power bills of consumers in British Columbia and Manitoba, and almost double them in Quebec. Rates in Ontario, on the other hand, would rise by only 27 per cent, because hydro accounts for a much lower proportion of total power there than in the other three provinces.
- Nearly $500 million in hydro "rent" is lost through exports to the United States.
- Electricity users everywhere benefit from low-cost hydro power through electricity trade. The gain to consumers averages about $165 per person across the ten provinces, but as the chart shows, consumers do considerably better in some provinces than in others. The authors make the point that these differences in benefits received are not reflected in calculations of equalization payments. Some economists have argued that hydro-electricity rents should be included, along with other natural resource rents, in an equalization program, at least to some extent.

Blue Gold: Hydro-Electric Rent in Canada, by Richard C. Zuker and Glenn P. Jenkins (EC22-120/1984E; $5.95 in Canada, $7.15 elsewhere).

Consumers benefit from low electricity rates

Hydro-electric rent received by users on a per capita consumption basis, 1979



A brighter picture for manufacturing

Canadian manufacturing industries are much more lean and mean than hitherto thought, according to a new Economic Council paper.

At first glance, however, the published figures on manufacturing sales in Canada tell a somewhat different story. It frequently appears that relatively few firms produce the majority of an industry's output, enabling them, by virtue of their market power, to influence price and production levels, and perhaps to realize supra-normal returns.

The picture for Canada, then, seems far from encouraging, as competition – that bastion of free enterprise and arguably the key to economic health and efficiency – doesn't appear to be ubiquitous in the Canadian manufacturing sector.

But a recent Council paper using Statistics Canada data takes a closer look at the sales data that are used in calculating census concentration measures – from which the presence of market power and, ultimately, competitive conditions in the marketplace are often inferred. These measures, the paper concludes, "suffer from a number of potentially important shortcomings," thereby fueling some distinctly negative impressions about the state of Canada's manufacturing sector. And because the measures are used in government competition policy to scrutinize corporate takeovers and mergers, their accuracy is most important.

What economists John Baldwin (of Queen's University), Paul Gorecki (of the Economic Council), and John McVey (of Statistics Canada) find is a cause of some concern. The conventional data fail to measure the impact of manufactured imports sold in Canada, which, in turn, distorts the degree of market power that may be exercised by Canadian firms. Today, these imports account for more than a quarter of all such sales in Canada, making conventional data "increasingly inappropriate" as international trade grows in importance.

Additional shortcomings

In addition, conventional measures don't accurately reflect a plant's manufacturing output. Despite the fact that a firm may provide products to a number of industries, its total output is credited only to the one receiving the greatest proportion. In other words, what is called "secondary output" isn't properly classified – and because it constitutes some 10 per cent of manufactured output in Canada, conventional measures may suffer from additional shortcomings.

The authors adjust the data to account for these discrepancies and then rank industries according to their level of concentration (primarily by measuring the sales attributed to the four largest firms in each industry).

Using 1979 data as a case in point, the results, across some 140 industries, show that "Canadian manufacturing industries are much more competitive than indicated by the published census concentration ratios." Under the new measurement, industry sales accounted for by the leading four firms dropped from 53 to 43 per cent on average. The adjustment for imports explains most of this decline in concentration, the authors found, although allowing for secondary output had a pronounced effect on a small number of industries. Adjustment for exports, on the other hand, had a negligible impact.

Further, the authors' analysis reveals an across-the-board decline in concentration from the beginning of the 1970s, indicating an increasing level of competitiveness by the decade's end.

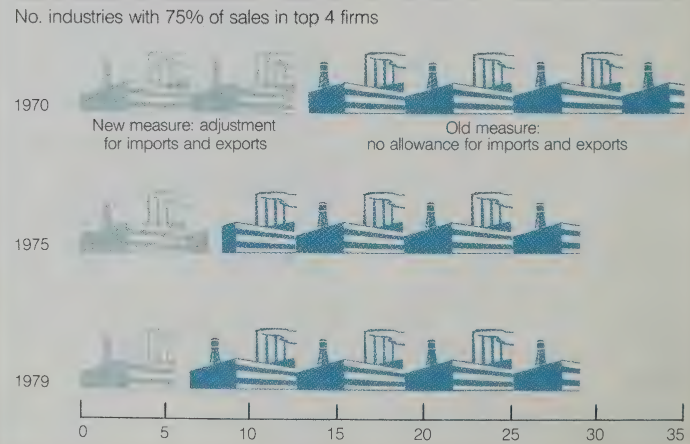
The industries where conventional data paint the most misleading picture are food and beverages, machinery, textiles, and electrical products, all of which prove to be more competitive under the new measurement. Conversely, conventional measures are not as distorting for regional industries, which are much less affected by import adjustments than industries of national scope.

Also misleading is the difference in concentration between manufacturing sectors in Canada and those in the United States, reportedly averaging about 20 per cent overall. That gap narrows to 13 points when data from both countries are adjusted for imports.

In essence, then, increased international trade is probably netting healthy returns for Canada by stimulating competition in the marketplace.

"Imports, Secondary Output, Price-Cost Margins and Measures of Concentration: Evidence for Canada, 1979," by J. R. Baldwin, P. Gorecki, and J. S. McVey. Discussion Paper No. 263.

Trade boosts competition in Canadian industry



Reforms needed in grain regulation

Western farmers, who produce the bulk of Canada's wheat and other grains, can expect a continued decline in real (inflation-adjusted) prices. Worse yet is the anticipated slowdown in international trade, which accounts for the largest chunk of Canadian grain sales.

What's needed under these conditions, among other things, is solid growth in productivity, greater economic efficiency, and an aggressive sales policy to reverse the downward slide in Canada's share of world grain exports. But because the industry is so heavily regulated, the challenges facing western grain farmers are in large part the government's responsibility.

In fact, a recent Council paper looking at the industry's prospects to 1990 concludes that the existing regulatory environment is putting a damper on western grain development. Economists R.M.A. Loyns and Colin A. Carter of the University of Manitoba – in research conducted for the Council's recent study of the western Canadian economy (*Au Courant*, vol. 5, no. 2) – propose a number of major reforms, many of them linked to recent changes in federal transportation policy – specifically, changes in railway freight rates.

Transportation impact

Since about 1950, these fixed statutory rates – part of the historic Crow's Nest Pass Agreement of 1897 – have been insufficient to cover railway costs. The grain transport system has thus deteriorated, and a massive regulatory framework has evolved to accommodate the ensuing transportation problems. Legislation passed in 1983 was designed to move these rates upward. Provided, therefore, that the extra revenue is sufficient to encourage a continuation of improvements in the railway infrastructure, much of the Crow-built regulatory framework can be modified – even dismantled.

For example, quotas on grain production, imposed by the Canadian Wheat Board (CWB) to ration scarce handling and transportation capacity, would be much less warranted, the authors argue. Where needed, quotas should be assigned on the basis of land productivity rather than the number of acres cropped. The authors also recommend giving complete control of rail car allocation to the Grain Transportation Authority, as "it has and is seen to have a favourable record of improving transportation."

Increasing efficiency

The CWB's current pooling and pricing techniques create serious market distortions, the authors find. Under new freight rates, grains should be priced regionally instead of nationally, they say, as this would encourage production according to comparative advantage. More incentives to enhance the protein quality of wheat should be considered, and a time-scaled payment scheme would better reflect management practices among individual grain producers.

Generally, the CWB must improve information flows to farmers to enable more effective production decisions. In some cases, for example, the CWB's year-end prices are not released until after planting time the following year.

Export standards administered by the Canadian Grain Commission are found to impede productivity. "If changes in these regulations are unwarranted, they should be shown to be so by credible research information," the authors conclude.

In addition, the Commission's role in regulating the grain-handling industry limits price competition and undermines economic efficiency, the authors find. They suggest opening the market up, either to small specialized firms or to the grain producers themselves. A wider Canadian effort to develop an effective competition policy must also be undertaken.

Excessive regulation in carrying out domestic feed grain policy is causing a number of problems, many of them spilling over to the livestock sector. Several reforms are needed, including the removal of various import/export restrictions, the opening up of the market to private traders, and changes in pricing policies that at present effectively subsidize eastern Canadian buyers. (New pricing policies are currently being developed.)

Overall, Canadian trade policy must become increasingly aggressive to improve performance in the years ahead. Better market research, promotion, and sales efforts are required, and a co-operative approach involving all elements of the industry is vital. The authors also express concern over growing trade with communist-bloc countries, as these markets are seen to offer limited long-term stability. Efforts should focus on winning back traditional customers and pursuing new opportunities. As such, it is essential to develop new international trade agreements, particularly with major grain exporters like the United States.

"Grains in Western Canadian Economic Development to 1990," by R.M.A. Loyns and Colin A. Carter. Discussion Paper No. 272.

National Film Board of Canada

Reforms in grain policy would improve industry outlook

Potash needs careful marketing

Saskatchewan has the world's largest and highest-quality potash reserves. And these huge deposits, despite being located at great depths, are also among the cheapest to extract.

Yet continued attempts to promote rapid industry growth could seriously erode the province's standing as a world leader in potash production. Instead, public policy should focus on determining the industry's optimum production capacity and developing an effective marketing scheme to avoid what is termed "destructive competition," says a recent Council paper by economist David Anderson (presently with the Centre for Resource Studies at Queen's University and formerly with the University of Regina). The paper was written for the Council's recent study of the western Canadian economy (*Au Courant*, vol. 5, no. 2).

This kind of competition can arise as the result of the industry's underlying market structure, the author says. Worldwide, only a small number of producers control the market. Demand is relatively unaffected by price, mainly because potash is an essential crop fertilizer with no close substitute. Thus a rapid expansion of supply would force prices down and reduce not only profits throughout the industry but revenue to Saskatchewan.

In the light of this possibility, recent government initiatives encouraging industry growth are "highly questionable," Anderson says. Nor would these drawbacks be offset by the creation of many new jobs, since the industry is highly capital-intensive, employing a total of just over 4,000 people. Also, because it is 60 per cent foreign-owned, a good portion of total industry profits are probably reinvested outside the province. In actual fact, the industry's prime benefit to Saskatchewan is the tax revenue it generates. The author concludes that incentives for expansion would, in effect, produce less overall revenue for the province because of the impact of destructive competition.

Marketing schemes

Indeed, the amount of tax revenue available to the province is largely determined by how potash is marketed. According to Anderson, it is in the province's interest to "restrict supply and exploit its market power" in the United States, where some two-thirds of Saskatchewan potash exports are sold.

At the same time, he warns against the consequences of overdoing the restriction in supply, since that could bring new competitors onto the scene. The industry's cost structure is such that "once a mine is constructed, it will be extremely difficult to drive out of operation, even by means of sustained predatory pricing," he concludes. Rather than simple-minded expansion, a delicate balancing act is needed, Anderson argues.

With that in mind, he suggests that consideration be given to using an industrywide marketing agency south of the border. The Canadian Potash Export Association (Canoptex) is one possibility. Such an arrangement could, however, bring U.S. anti-trust action and dampen relations between the two countries. At the same time, the economic cost of failing to exploit the industry's market power falls disproportionately on the residents of Saskatchewan, he says.

Expansion through the sale of potash to offshore customers has been suggested as an alternative strategy. Third World countries represent "significant long-term growth potential," Anderson observes, noting that potash consumption in those nations grew almost 10 times faster than in developed countries between 1976 and 1981. But there are complications with this approach as well.

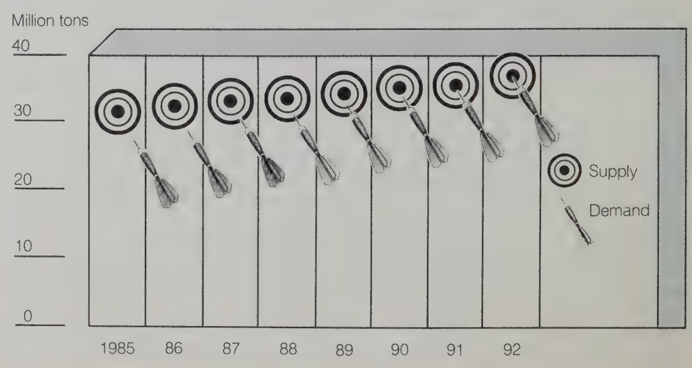
For example, the most practical method of attracting new offshore customers would be aggressive price competition. But U.S. reaction to cheaper offshore prices might force Canadian producers to lower their U.S. prices; then, both they and the province would lose revenue from that market.

A partial solution might lie in giving total responsibility for offshore sales to a uniform selling agency such as Canpotex, which already controls a good portion of this business. But because membership in Canpotex is currently voluntary and several new operators in New Brunswick are not members, alternative marketing arrangements may be required. Given that export powers reside in Ottawa, such action would probably require federal government participation, Anderson points out.

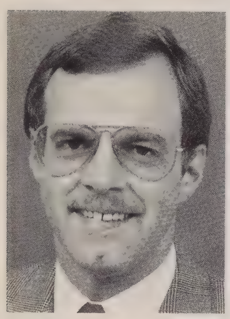
"Among the longer term arrangements which should be considered is an export permit system along the lines used by the National Energy Board or the Uranium Export Review Panel," he suggests.

"The Saskatchewan Potash Industry: Alternative Strategies for Future Development," by David L. Anderson. Discussion Paper No. 264.

Potash supply outstrips demand till 1990s



New appointments to the Economic Council



Miller H. Ayre is the President and Chief Executive Officer of Ayre's Limited of St. John's, Newfoundland.

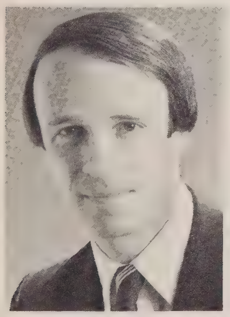
Mr. Ayre is Vice-Chairman of the Retail Council of Canada and a member of the board of directors of a number of organizations, including Newfoundland Mining and Exploration Ltd., Clarenville Ocean Products Ltd., and J. Michaels Fashions Ltd.

Jalynn H. Bennett is the Investment Vice-President, Canadian Equities, for Manufacturers Life Insurance Company, a firm which she first joined in 1965 and has subsequently served in numerous capacities.

Ms. Bennett is a member of the Ontario Manpower Commission and the Ontario Government Task Force on Employment and Technology.

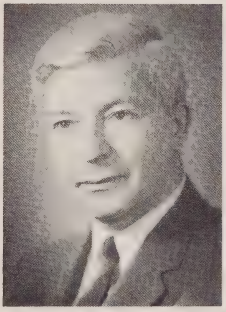
James Andrew Coombs is Vice-President (Operations) of the New Brunswick Telephone Company Limited. Prior to joining that company in 1976, he held a variety of positions at Bell Canada.

Mr. Coombs is a Director of Bruntel Holdings Ltd. and Brunswick Square Ltd. He serves on numerous boards and committees, including the Board of Governors of the University of New Brunswick and the Maritime Chapter of the Financial Executives Institute.



Pierre Fortin is a Professor of Economics at Laval University in Quebec City. He has a Bachelor of Sciences degree in mathematics from Laval University, a Masters degree from the University of Montreal, and a doctorate degree from the University of California (Berkeley).

Professor Fortin is author of several books and is a freelance columnist for Le Devoir and The Financial Post.



Kalmen Kaplansky is a labour consultant, a former member of the Economic Council of Canada and a former Canadian Director of the International Labour Office. He is currently serving in a part-time capacity as Senior Fellow of the Human Rights Centre at the University of Ottawa.

Mr. Kaplansky was the Chairman of the Special Staff Group on Economic and Employment Opportunities for Native Northerners and was the Director of the Department of International Affairs of the Canadian Labour Congress.

Susan A. Thompson is the President and General Manager of The Birt Saddlery Company of Winnipeg, a retail firm specializing in western leather products.

In the past, Ms. Thompson held positions at both the T. Eaton Company and The Bay Company. She is currently Director of the University of Winnipeg's Interfaith Pastoral Institute and an executive member of the Winnipeg Chamber of Commerce.

WORKING TO IMPROVE CANADA'S POLICY PERFORMANCE

That has been the chief concern of the Economic Council of Canada since its creation as an independent advisory body in 1963.

Over the past two decades, the Council has focused on public policy issues of key importance to Canadians — including economic growth, the role of new technology, the impact of government regulation and the changing job market, to name only a few.

The Council pursues its goal of improving Canada's economic performance in three ways:

Consultation

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Research

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Economic Council of Canada

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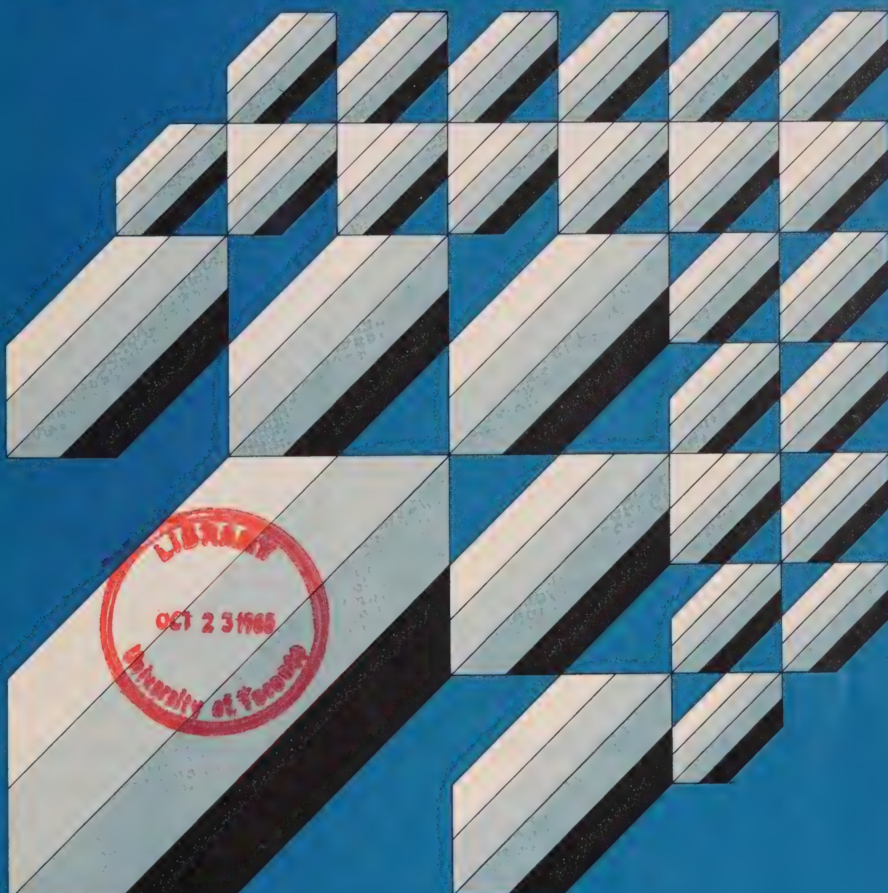
Economic Council of Canada

Volume 6, No. 2, 1985

The Council's annual review of the economy

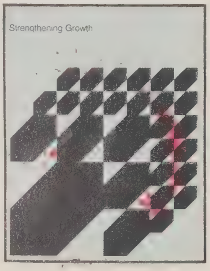


- Inflation and business taxes
- VIA Rail's track record
- Canada's manufacturing performance

PUBLICATIONS

Twenty-Second Annual Review

Strengthening Growth: Options and Constraints (EC21-1/1985E; $5.95 in Canada, $7.15 elsewhere). In its 1985 review of the economy, the Council looks at Canada's productivity performance, the pros and cons of an independent monetary policy, and the worrisome aspects of the current investment situation. In addition, it discusses policy options for the future.



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No. 284 "An analysis of the present value of stumpage under a variety of economic and management conditions," by *Terry Heaps*.

No. 285 "The organization and control of Crown corporations," by *M. K. Berkowitz* and *Y. Kotowitz*.

No. 286 "The impact of inflation on corporate taxes and the cash flows of business," by *Glenn P. Jenkins*.

No. 287 "On the relevance of export demand conditions for capital income taxation in open economies," by *David F. Burgess*.

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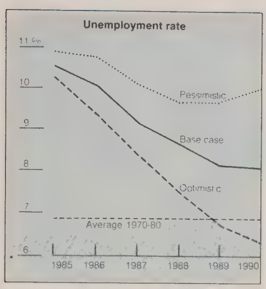

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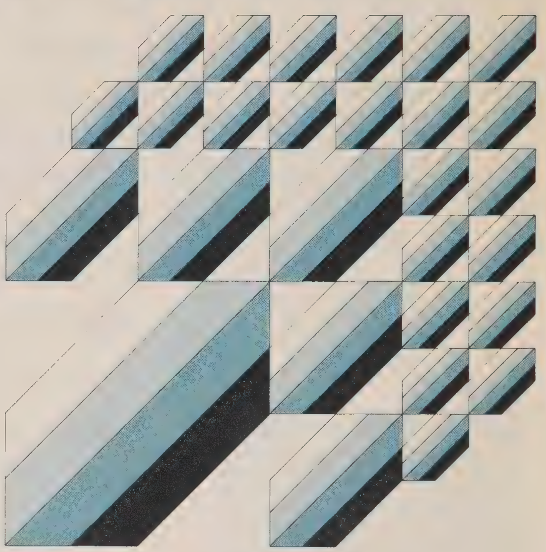
Strengthening Growth



Investment spending, productivity growth, and Canada's monetary policy will require special attention over the next few years, says the Economic Council in its Twenty-Second Annual Review of the economy.

A better understanding of these three key areas, along with continued vigilance on the government deficit issue, should make it easier for Canadians to choose the most effective means of strengthening growth and reducing unemployment in the medium term, says the Council. And some encouraging signs over the past year suggest that problems can be tackled now with greater confidence than in the recent past. In certain respects, 1984 was a good year for the Canadian economy. Growth (as measured by the gross national product) averaged an impressive 5 per cent – not only the strongest showing since 1976 but also based on both consumer spending *and* exports (primarily in the automotive market). At the same time, inflation dropped to 4.3 per cent, its lowest level in 15 years, while both wages and prices continued to rise, but at slower rates.

The greatest weakness in 1984 lay in the low level of investment spending, as evidenced by the poor performance of business and residential "capital formation" (a term used to describe the increase in the number of a country's factories, mines, machinery, and so on). In fact, the ratio of investment to gross national product (GNP) in 1984 was the lowest since the late 1940s, in direct contrast with the situation in the United States, where growth in capital formation of about 20 per cent boosted U.S. real growth to nearly 7 per cent.

While several positive signs now suggest that intentions to spend, as well as spending, are on the increase, the worrisome aspects of the current investment situation persuaded the Council to examine the issue in greater detail (see page 8).

Another cause for concern lies in the fact that, for the seventh consecutive year, wage growth has failed to keep pace with the cost of living, with inevitable consequences for Canadian living standards. Living-standard growth is closely tied to productivity growth, which has remained stagnant for more than a decade. Restoring productivity growth would not only boost Canadian living standards, says the Council, but would help to control inflation and reduce the federal deficit. While growth in labour productivity has recently picked up, there is no guarantee that the problem has been solved. Council research on the complex issue of the productivity slowdown is discussed on pages 5 and 6.

As well, concerns have been expressed about the ramifications of the current monetary policy. High real interest rates and the constraint put on the Bank of Canada by the increased integration of international financial markets have left the Bank with few options but to follow U.S. interest rates while maintaining order in the foreign-exchange market. Yet today's above-average real rates, which translate into double-digit nominal interest rates, are one factor likely to continue to slow the pace of investment expansion in Canada, and leave the federal government less room for policy manoeuvre in the face of the need to service the mounting debt. Would following an independent monetary policy improve the situation, as some believe? The Council looks at the pros and cons of this issue (see page 7).

A view of the economic setting over the next ten years would facilitate discussion of these important questions, so the Council has sketched in the medium-term economic outlook. Since such an exercise, however useful, is inevitably open to debate, the Council also considers areas where a degree of uncertainty could change the outcome – namely, inflation, investment, government deficits, Canadian export performance, and the outlook for the United States.

Outlook for the economy

The Council's basic projection of the key economic indicators – which it calls the "base case" – is founded on certain specific assumptions (on the past performance of the economy, for example, as well as its present position, current information about its future course, the outlook for foreign economies, and so on). Using this basic projection, the Council then tries out various scenarios or alternate cases, to see how the economy would be affected.

According to this year's base case, the medium-term outlook suggests that during the next ten years economic growth could average 3.5 per cent; inflation will dip below 4 per cent; the unemployment rate will fall to near 7.5 per cent; and the federal deficit will decline as a percentage of GNE. But while the medium term looks reasonably bright, the near-term outlook remains cloudy with respect to the rate of job creation, investment performance, the imbalance between government spending and revenues (despite headway in reducing the deficit in the recent budget), and the real rate of interest.

The charts on the next two pages indicate the outlook for six key economic indicators over the decade. In each case, the base case is compared with an optimistic alternative that assumes low inflationary expectations, low U.S. interest rates, and strong domestic investment; it is also compared with a pessimistic alternative assuming the reverse.

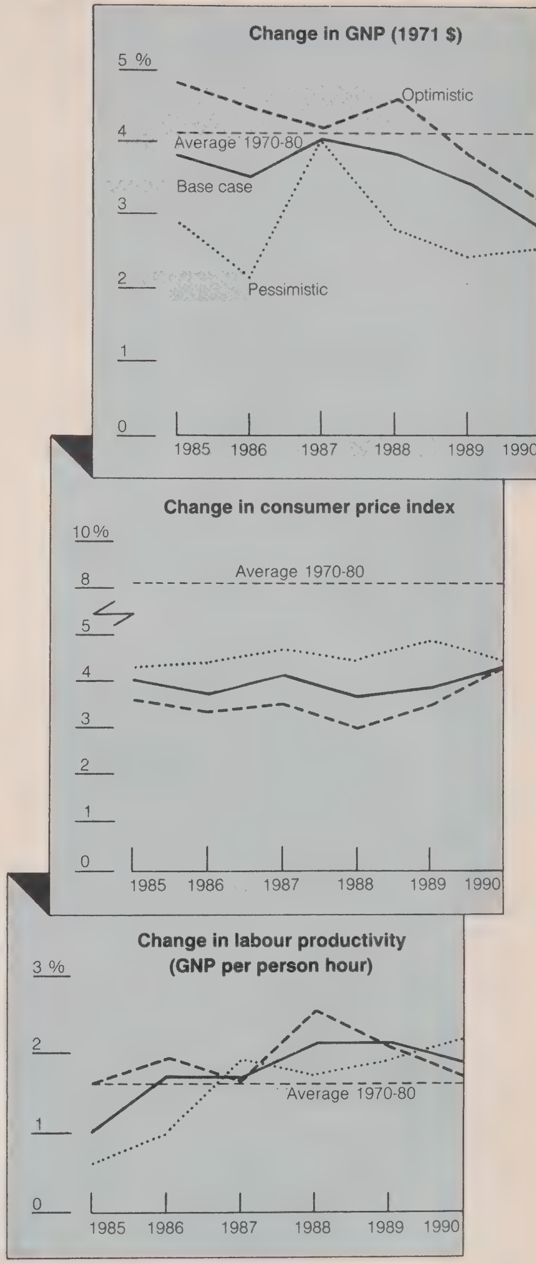
Growth (GNP)

Barring a serious recession, real growth should average more than 3.5 per cent throughout the next decade – the best performance Canada has anticipated in a long while. But because exports have recently become a major contributor to Canada's growth, changes in export markets could affect this outlook. In that respect, U.S. economic prospects are important, as is the development and/or expansion of markets elsewhere.

While the outlook for the United States is generally favourable, certain eventualities south of the border could affect Canada's export trade. The most uncertain aspect of the U.S. medium-run outlook pertains to the balance of payments and the dollar. The Council observes that an expected decline in the U.S. dollar (about 21 per cent in the medium run), coupled with any protectionist measures that may be taken by Congress, could erode the recent gains in Canadian competitiveness and affect Canada's position in U.S. markets. In contrast, trade liberalization between the two countries, "although complex to negotiate, could be of great long-term benefit to Canada," the Council says.

Inflation (consumer price index)

All going well, the inflation rate is expected to remain relatively low over the medium term. That outlook, however, assumes the continuation of those elements that have held inflation down in recent years – for example, low inflationary expectations, weak oil and non-oil commodity markets, moderate monetary growth, and stable raw material markets. A critical factor underlying inflation prospects in the medium run is the outlook for nominal



wage growth, the Council observes. It cautions that while lower inflation improves the picture for jobs, productivity, and deficit reduction, even slightly higher inflation has a strong reverse effect.

Labour productivity

Provided that prices remain stable, that real growth continues, and that there are no "shocks" to the economic system, labour productivity and growth in real wages should range between 2.0 and 2.5 per cent over the decade – the most prolonged period of stable gains for those indicators since the 1960s. But unanticipated shocks, a resurgence of inflation, and/or periods of recession could dissipate any advances.

Unemployment

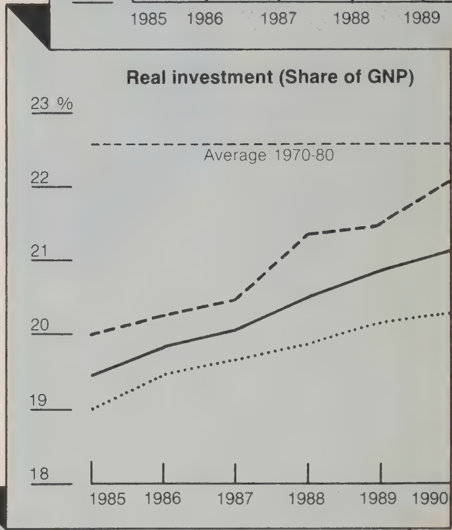
The medium-term outlook for labour markets appears favourable, according to the Council's basic projection. Employment growth is anticipated to be around 2.3 per cent for the period 1985-90 but below 2.0 per cent for 1991-95. Diverse factors, such as some recovery in the rate of productivity growth and a continued upward trend in the female participation rate, will combine with steady growth in output to produce a gradual reduction in the unemployment rate. Under the current policy regime, however, double-digit unemployment will persist until late 1986, after which continued real growth in output of about half a percentage point above potential growth throughout 1985-95 could push the rate of unemployment below 8 per cent between 1991 and 1995.

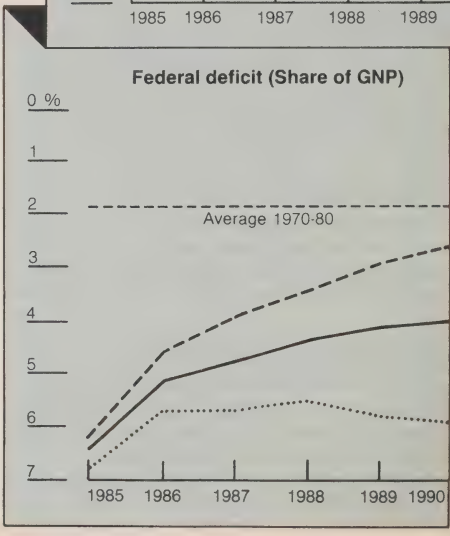
Real investment

The weakness of investment spending (a concern in 1984) constitutes a worrisome aspect of the medium-run outlook as well. The base case implies a modest recovery in business investment during the medium term, but investment as a percentage of GNE is not expected to recover significantly from its current low levels. Nevertheless, there is some reason for optimism. In the energy area, for example, changes introduced by the Western and Atlantic Accords make the expansion of energy-related investment in Western Canada and Newfoundland more likely. As well, anticipated stable economic conditions should encourage more non-energy, non-housing investment. But according to the Council, the outlook for investment remains, to a large extent, unpredictable and highly dependent on the recovery of business confidence, as well as the policy approach adopted.

The deficit

With the implementation of the tax increase and expenditure reduction initiatives taken in the May 1985 federal Budget, the federal deficit as a percentage of GNE is expected to fall from a high of nearly 7 per cent in 1984-85 to about 4 per cent in 1990 and close to 2.0 per cent between 1991 and 1995. In the Council's view, the recent budget "changed for the better many of the ominous trends related to deficits of the past decade." The Council cautions, however, that deficit projections are very sensitive to assumptions about economic activity and interest rates. So a weaker U.S. economic outlook, coupled with higher real interest rates, could substantially increase both deficit and debt levels above that of the base case; and, conversely, a stronger U.S. outlook and lower interest rates would improve the federal budget position.





The productivity slowdown

When a better cook in a better kitchen can serve up better meals faster, or a lawyer is able to handle more cases with a word processor, or airlines using computerized booking systems can fill more seats, then productivity is on the rise. In more general terms, a reduction in costs per unit of output or an increase in output per unit of input equals productivity growth.

For the economy as a whole, this process is key to improvement in living standards. As the Council puts it: "when the efficiency with which people, machinery, buildings, equipment, raw materials, and knowledge are combined to produce more goods and services improves continually, this inevitably results in higher real incomes and standards of living."

The problem in the recent past, not only in Canada but also in most major industrialized countries, was that productivity growth had been on the wane since the early 1970s and virtually dried up altogether during the early 1980s. While some improvement has been apparent recently, it is still too early to know whether it marks the beginning of a long-term trend. Consequently, "for the first time in the lives of Canadians now in their forties, growth in living standards appears to be seriously threatened."

Returning to the old regime of sustained high growth in real per capita incomes will not be possible without renewed productivity growth. That in turn means determining the causes of the productivity slowdown and developing a strategy for action.

An important first step in this undertaking is to arrive at an accurate understanding of the concept of productivity itself. In the past, it was measured simply in terms of labour productivity – output per person employed, or output per person-hour. The Council, however, prefers the more comprehensive framework provided by the concept of "total factor productivity" or "TFP." Put simply, TFP measures the increases in output that are in excess of the increase in the combined individual elements engaged in the production process. These elements include not only labour but also capital, materials, energy, and many other inputs. Consequently, the Council observes, this measurement bears a closer relationship to many everyday measures of economic performance – such as output growth, labour productivity and cost performance, wage and price prospects, and the outlook for inflation.

A look at TFP performance since 1961 shows that growth prior to 1973 averaged about 2.6 per cent a year; after 1973 it was, on balance, negative. Manufacturing industries, as well as transportation, communications, and trade, made a large contribution to the growth phase. After 1973, TFP growth virtually collapsed everywhere.

Causes of slowdown

Five key areas could have contributed to the reduced growth in living standards during the late 1970s and early 1980s – namely, resource reallocation; labour and skill; capital, "best practice" and its adoption rate; economies of scale; and utilization rates. The Council looked at each of these in turn to determine their relationship to the TFP growth slowdown.

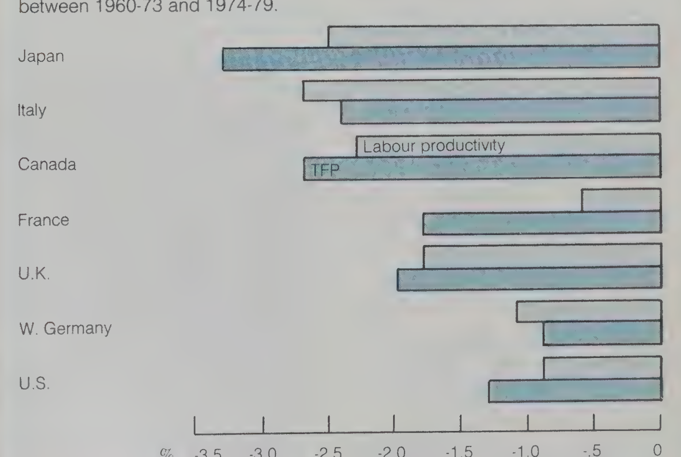
Resource reallocation

When labour and output move from low-productivity industries to higher-productivity ones as part of the industrialization process, then "resource reallocation" (which increases average productivity) is said to take place. When this process slows down or is distorted so that resources move instead to less-productive industries, then productivity suffers. Council research imputes almost 30 per cent of the productivity slowdown to this source. Two possible causes of distortion are inflation and increased government intervention. With regard to the former, the Council says that "it is certain that inflation has distorted tax rates across firms and industries, penalizing those with large stocks of long-lived depreciable assets and rewarding those with proportionately more debt."

Linking increasing government intervention to the productivity slowdown is more difficult – first, because analysis to date has not established a precise relationship between the two; and second, because the slowdown in productivity growth coincided with a slowdown in government discretionary spending. On the other hand, there is evidence that government regulation at the industry level has a negative impact

The productivity slowdown in manufacturing

Change in average annual growth rates of productivity in manufacturing between 1960-73 and 1974-79.



on growth. Furthermore, government intervention in the form of industrial policies has done little to promote economic efficiency and, in fact, has brought about resource misallocations, Council research found. In the Council's view, governments should limit their assistance to those industries and firms with the potential to improve Canada's economic welfare or, in some cases, help to ease an adjustment process.

Labour and skill

Some analysts have argued that the structure of the labour force itself – that is, the age and sex of workers, and their education and skill levels – has an important bearing on productivity growth. They contend that the influx of less-experienced women and young people into the labour force has recently had a negative effect in this respect. Council analysis, however, indicates that their impact has been negligible and quite possibly even offset by the continuing increase in the level of education.

But some other problems in the labour market may be contributing to the productivity slowdown. Shortages of skilled workers, the quality of management education, relatively inflexible training programs, and difficulties in labour-management relations may account for some of Canada's recent poor productivity performance. The Council suggests a number of possible improvements in these areas; for example, training programs might be better geared to teaching a cluster of skills rather than a single skill, in order to provide workers with greater flexibility and occupational mobility. Also, allowing workers a greater share in management concerns – through such schemes as gain-sharing and participatory decision making – might boost company performance.

Capital and "best practice"

In contrast to the experience in some industrialized countries, productivity growth in Canada has not been affected by a slowdown in capital spending (on buildings, machinery, equipment, and so forth). In fact, the Council observes, the ratio of capital to labour for the Canadian economy has continued to increase since 1973.

But capital spending could affect TFP growth in other ways. For example, declining investment in "best practice" (the most efficient) technology might have affected TFP growth. Indeed, some analysts attribute most of the productivity slowdown to a slowing in the adoption rate of best-practice technology since 1973. What caused this decline? According to the Council, the explosion of energy and other raw-material prices, along with the subsequent drop in demand, provides the major explanation. New energy-saving technologies had to be developed and, because of the time lag between invention and diffusion, these have begun to emerge only recently. But there may be other reasons for the technological slowdown as well, including a possible drop in the rate of innovation, the slow speed at which new technologies have replaced old ones, and worker resistance to technological change. Spending on research and development – which, had it declined, could have explained some of the technological slowdown – remained stable in Canada throughout the 1970s and thus was not a factor.

Economies of scale

If it proves cheaper for a business to produce additional units of output – for a factory assembly line to produce more cars, for example, or an airline to sell more seats – then prices will go down or salaries and profits will go up. Either way, real incomes and productivity will rise. But when incremental production costs exceed average costs, the reverse holds true. Evidence suggests that the latter may have been the case in the Canadian manufacturing sector in recent years. According to Council analysis, only 20 per cent of Canadian manufacturing plants were at the minimum efficient size in 1979, suggesting the existence of a scale problem. Council research indicates that larger markets might improve that situation (and thus productivity growth), since plant scale is found to increase under those circumstances.

Utilization rates

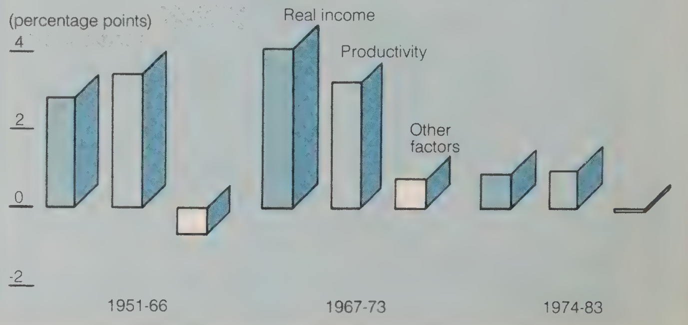
The degree to which industries use their productive capacity – which varies with the swings in activity characterizing the business cycle – can also affect productivity performance. In that respect, the energy price crises in the 1970s, the subsequent worldwide recession in the early 1980s, and the consequent slowing of demand reduced the level of capacity utilization. In addition, some analysts have argued that the practice of "labour hoarding" – whereby employers keep underemployed workers on the payroll during a downswing in the business cycle, in expectation of an early recovery – also contributed to the productivity slowdown. The Council found evidence to be very mixed in this regard, however.

Outline for action

Given this analysis of the productivity slowdown, what should be done to revitalize the Canadian economy and restore TFP growth? At the global level, sustained non-inflationary growth, low unemployment, and a high level of capacity utilization, achieved through fiscal and monetary policy, should do the trick, the Council says. At the national level, measures should be taken to promote markets that function efficiently, with priority given to strengthening competition, reforming regulation, and promoting an aggressive approach to trade expansion. In addition, action should be taken to modify government policies that undermine efficiency by causing a misallocation of resources.

What makes living standards grow?

Factors contributing to growth in real income per capita in Canada, 1951-83



Should Canada change its monetary policy?

Canada's current monetary policy has been under discussion recently. Its critics allege that allowing Canadian interest rates to shadow U.S. ones has imposed a heavy burden on this country's economy and that Canada would be far better off with its own independent monetary policy.

High interest rates since the late 1970s have indeed taken their toll in Canada, the Council says, by depressing investment and output growth and clouding the prospect of sustained expansion. But how feasible is the notion that this country can adopt a monetary policy that insulates domestic interest rates from adverse movements in world rates? The Council analyses this question, first, by assessing how domestic rates are determined and, second, by reviewing the success of other industrialized countries in detaching their interest rates from developments on world financial markets.

Determining interest rates

In an open economy like Canada's, with a high inflow and outflow of trade and investment, there is understandably a large degree of economic and financial integration with the rest of the world. In Canada's case, by far its closest economic links are with the United States, its largest trading partner. As well, Canada's financial sector is wide open both to the United States and to other countries – as evidenced, for example, by the high level of total foreign direct investment outstanding in Canada, the worldwide operations of Canada's chartered banks, and the impressive sales of Canadian corporate and provincial government bonds on foreign markets.

This kind of economic integration lessens government control over domestic interest rates. So, too, does the fact that investors currently regard securities denominated in Canadian and U.S. dollars as being very close, if not perfect, substitutes (termed "asset substitutability").

Another determinant of domestic interest rates is the flow of capital between Canada and other countries ("capital mobility"). The main factors affecting this flow are differences in interest rates and expected changes in exchange rates. Investors tend to seek out the highest interest rates, except when they anticipate an offsetting currency appreciation.

The experience abroad

Four major conclusions emerge from Council analysis of the pursuit of independent monetary policies by other countries. First, exchange controls (government restrictions on the sale or purchase of foreign currencies or assets by its citizens) do not work in the long run. Most countries that took that course of action have now abandoned it (West Germany and the United Kingdom) or are easing off (Japan and France). By and large, notes the Council, the trend nowadays is towards liberalization of financial markets, along the lines of that in Canada and the United States.

Second, for many countries there appears to be a trade-off between adjustment of domestic interest rates to foreign rates and a depreciation of their currencies. In comparison, the Canadian dollar has remained relatively stable.

Third, a country's success rate in decoupling its interest rates is heavily dependent on the expectations for, and confidence in, its economy.

Finally, countries appear to be grouping into "currency areas," where a number of subordinate economies stabilize their exchange rates with respect to the currency of a dominant economy. For example, France, the Netherlands, Belgium, and Austria have oriented their currencies towards the West German Deutschemark.

Options for Canada

The Council also considered the likely results of a made-in-Canada monetary policy. Detaching domestic interest rates from those in the United States could be effected in two key ways, it observed. First, by the imposition of credit and exchange controls. Reducing capital mobility has its costs, however, which could turn out to be very high for Canada. For example, controls to prevent capital from leaving the country could discourage potential investors and also penalize Canadian investors by denying them access to foreign markets.

Second, by directing policies towards reducing domestic interest rates while allowing the dollar to seek its own market-determined level. Council simulations developed on its new CANDIDE economic model show that this approach significantly increases inflation and gives only slight impetus to real investment and exports over a ten-year period (1985-95). A small improvement in the unemployment rate is offset by a decline in real disposable income and real wages.

The most effective way to bring down Canadian interest rates, the Council concludes, is through the fundamental improvement of economic performance, which will inspire investor confidence. In the event that the Canadian economy becomes stronger than its neighbour's, interest rates could decline without any adverse effect on the exchange rate. The Council, however, cautions against viewing lower interest rates as an end in themselves, noting that desirable economic goals may be attainable via policies other than an interest-rate-oriented monetary policy.

> ***Lower interest rates should not be viewed as an end in themselves.***

The investment picture

Capital spending – on new machinery and equipment, factories, roads, buildings, and other assets – is what keeps an economy healthy and growing. So Canada's poor investment performance recently has been the cause of some concern. As a percentage of GNP, investment is down both in the public domain – where spending on roads, hospitals, schools, and so on has been declining since the mid-1960s – and in housing, where the precipitous decline of the early 1980s has stabilized somewhat. But particularly worrisome is the performance of business investment, which has not rebounded in this recovery to surpass its pre-recession peak, as it did in the wake of earlier recessions. Instead, capital formation (the increase in capital assets) remains well below the high reached in 1981.

An analysis of business investment by sector indicates that the decline is more pronounced in some areas than in others. Most alarming in this regard has been investment behaviour in the manufacturing sector. While capital spending has increased steadily over the past 30 years, it has been losing ground as a proportion of GNP since the early 1970s, and the most recent drop (1981-83) was the largest recorded in 30 years. In 1984, the Council observes, "net investment...was not even sufficient to maintain the productive capacity of the manufacturing sector." That was not the case in the United States, as the chart shows.

A run-through of manufacturing industries shows that while some (most notably motor vehicles) have continued to attract investment, others – machinery, furniture and wood, metals and nonferrous metals, iron and steel, metal fabricating, and textiles (excluding leather) – have recorded a diminishing share of total investment, in some cases dating back to the mid-1970s.

Cause of the decline

A company's decision to invest is influenced by a variety of considerations. The bottom line, notes the Council, "is that the firm expects to make money.... Thus, there must be a market for the product that will result from the new investment." But demand alone is not enough to trigger investment spending. In addition, the productive resources required by the firm must be available at a cost in line with the expected sale price of the product.

The poor investment performance since 1981 has been due to a downswing in the business cycle combined with some long-term forces affecting both demand and supply – including a slowdown in population growth, a decline in Canada's competitive position abroad, an increase in the savings rate, the combined impact of the recession and lower inflation, weak prices for resource-based products, and the weak financial position of nonfinancial business.

The right climate

What, then, persuades a business to engage in new investment? First and foremost, says the Council, is the expectation of a strong demand for its products. At the same time, though, it must be unable to meet additional demand with its existing productive capacity. That was not the case between 1979 and 1982, when a declining rate of capacity utilization contributed to the weak investment performance.

Other factors often cited as influencing investment decisions include interest rates (which affect the price tag of the investment project), the financial position of the firm, its confidence in the future, and taxation (in terms of both investment incentives and tax rates). The Council assessed the relative importance of these and other different "variables" by means of a sector-by-sector analysis, as well as through simulations on its CANDIDE econometric model. The results indicate that final demand is the major determinant of investment decisions, whereas high interest rates, and even tax measures, are generally less important.

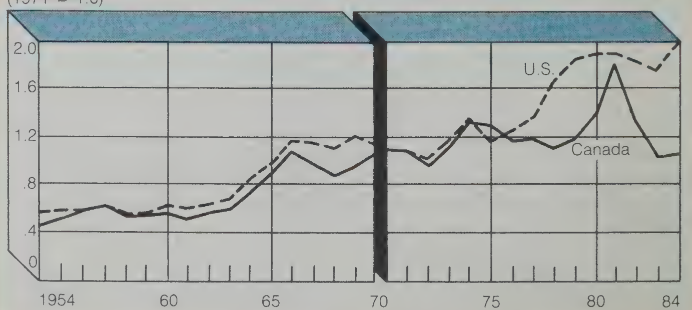
Future outlook

Forecasters and the business community agree that investment will be a rather cautious and slow process in coming years, as the long-term influences mentioned above continue to have a negative impact. In the shorter run, though, an upward turn in the business cycle will bring an increase in investment in 1985-86 relative to 1984.

Governments can seek to improve the investment outlook in several ways. First, they can give a boost to sectors in which the prospects for investment are good – such as oil and gas, auto and auto parts, and the high-tech industry. Second, they can encourage investment in new technologies in order to brighten the profit picture for business and offset high interest rates. Finally, they can create a favourable climate for investment by taking measures to increase confidence in Canada's economic potential.

Manufacturing investment in Canada and the U.S., 1954-84

(1971 = 1.0)



Options and constraints

Canada's number one priority over the next few years should be to "strengthen the bases for growth and job creation both regionally and nationally," concludes the Economic Council. A favourable medium-term outlook for the economy makes those goals attainable through the reinforcement of favourable trends and the correction of less favourable ones.

As a framework for future performance, the Council set out a number of targets in its past two Annual Reviews (see box). These goals may well be closer at hand now than they were a year ago, the Council observes, but much will depend on the right conditions at home and abroad.

A quick rundown of the targets shows that, in the past year, progress has been made both in containing inflation and in controlling the federal deficit. Future action on the inflation front should be directed towards maintaining, or possibly slightly lowering, the current rate, the Council says, rather than attempting to reach a zero rate. It also notes that larger and faster deficit reduction in the absence of strong domestic and international economic growth could have costly side effects.

As for Target 5, the Council believes that it should be possible to improve social policy at little extra expense through a much-needed restructuring of the welfare system and related tax changes.

Business investment

Targets 1, 2, and 4 will present the greatest challenge in future years. Restoring productivity growth, creating jobs, and reducing unemployment will depend to a large extent on an improved economic climate overall. That, in turn, requires the participation of a revitalized private sector. While business investment, a key indication of that sector's well-being, has been down in recent years (see page 8), signs of renewed financial health in the business community have appeared lately. Certain measures would give this recovery an extra boost, the Council says. The restoration of business confidence, fostered by the May 1985 federal Budget, would be further encouraged by a reform of the tax system, particularly in the area of tax subsidies and penalties.

New technology could also change the medium-term investment climate for the better. But that will depend on Canada's ability to keep abreast of new developments. Government policy should actively encourage the adoption and subsequent diffusion of new ideas, products, and processes originating abroad, says the Council. It notes as well that cooperative R&D (research and development) ventures on the part of Canadian companies could, under careful management, pay off substantially.

An important consideration in this technological era is the "nurture and care of human resources," the Council asserts. Company managers must be prepared "to adopt innovations in the organization of work that will successfully accommodate human needs." The Council observes further that while new technologies will provide many workers with fresh job opportunities, others may need substantial retraining or other forms of assistance. In that regard, the Council advocates more broadly based training programs to equip workers with a wider variety of skills.

Productivity growth

Productivity growth remains a major concern, in the Council's view. The recent slowdown stems from a variety of causes (see pages 5 and 6), including the complex issue of resource reallocation. The flow of resources from less- to more-productive areas has been unintentionally impeded on occasion by certain government measures, including regulation, some tax incentives, and

TARGETS

1 – Productivity growth of 1.5 to 2.0 per cent a year.

2 – Employment growth of 2 to 3 per cent a year in order to lower unemployment to a range of 6 to 8 per cent.

3 – Annual inflation of 5 per cent or less.

4 – Net capital inflows of less than 2 per cent of GNE.

5 – The maintenance and improvement of existing social policies.

6 – A gradual reduction of the federal deficit as a percentage of GNE.

various industrial subsidies and programs, the Council says. It underlines the "need for a more thorough assessment of the rationale for government intervention in the marketplace and of the effects of any resulting impediments to the free operation of markets."

That issue ties in with the question of regional differences in income, productivity, and economic growth. Governments have developed a large and complex set of programs to deal with these disparities that, together, have given a boost to net incomes in the Atlantic provinces and Quebec. These programs have tended to dissuade people from moving to areas of greater employment, the Council notes, proposing that the focus of government adjustment assistance could be shifted periodically, as circumstances warrant, from income support to retraining and relocation.

Trade liberalization

Target 4 calls for a domestic savings rate high enough to keep Canada's dependence on net capital inflows to about 2 per cent of gross national expenditure (GNE). That depends, in turn, on Canada's trade performance, which could be threatened by growing signs of protectionism in the United States – Canada's largest trading partner. To guard against that possibility and, further, to raise Canadian living standards, the Council believes that Canada should move towards trade liberalization. This initiative is likely to increase Canadian real incomes in two ways, it contends. First, consumers would benefit directly from cheaper goods; and, second, the consequent reorganization of Canada's industrial structure would boost productivity growth.

Critics of trade liberalization argue that adjustment to the new system would be very costly for many Canadian firms and workers. But that is not borne out by the adaptation process that followed the substantial lowering of tariff barriers in the Tokyo Round of GATT (General Agreement on Tariffs and Trade), says the Council. Rather than causing the demise of whole industries, adjustment took the form of expansion in some areas and greater specialization or fewer "births" of new firms in other less favourably affected areas.

The Council therefore proposes a "two-track" approach to trade liberalization. First, it suggests that Canada "vigorously pursue preparations for a new round of multilateral trade negotiations [MTN], with special emphasis on strengthening the GATT machinery and on new initiatives to overcome the objections of the developing nations to the MTN process."

Second, it suggests that "Canada should also intensify its efforts to open negotiations with the United States at the earliest possible opportunity with a view to achieving a comprehensive bilateral liberalization of trade," in line with the GATT.

Suggested policy package

While many issues will require attention if the Council targets are to be met, one particular policy mixture could speed up progress in that direction. Council analysis suggests that combining trade expansion within the GATT framework with a looser monetary and tighter fiscal policy, and more deficit-reducing activity than was included in the May 1985 federal Budget, could have positive results. "In isolation, each component might have unwanted side effects," it notes, "but as a package the components compensate one another for their less desirable effects."

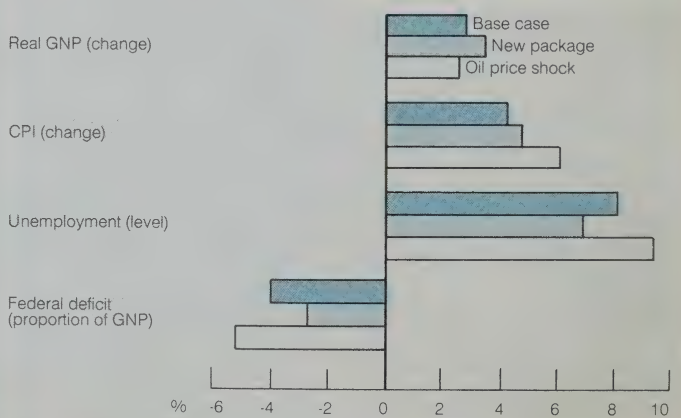
Simulations carried out on the CANDIDE economic model support this approach (see chart). The net effect of gradually expanding exports to 2.5 billion (1971) dollars above the basic projection by 1990, of reducing the Canadian short-term interest rate by 1 percentage point from base-case values, and – because these measures would enlarge the economic pie – of extending the surcharge on personal income contained in the May Budget through to 1990 would be progress in almost all areas. Real growth would average above 4 per cent; inflation would average about 4 per cent by 1990; the unemployment rate would fall below 7 per cent; and the deficit would fall below 3 per cent of GNP, about 1 percentage point lower than that of the base case.

These results imply that improvements can take place in many areas simultaneously under one policy regime. Further tests indicate, however, that this policy package cannot avert a major downturn in the event of a serious economic "shock," such as a doubling of the world oil price. With that in mind, the Council notes that "this is perhaps a good time to make as much progress as possible in strengthening the competitive structure of the economy and consequently its ability to withstand adverse external shocks of any origin."

The Council concludes on an optimistic note. "We believe," it says, "that many small forces of improvement are beginning to appear in the Canadian economy, that they are reinforcing one another, that the momentum of economic growth is building, and that the right policy improvements can add to this momentum.... All things considered, Canada appears to be in a position to achieve more sustained and more broadly based improvement in the growth in real income in the years ahead than it has experienced during the last decade."

How a new policy package could affect the economy

Changes in selected economic indicators under three scenarios, 1990



Putting VIA Rail on track

VIA Rail won't be able to improve its passenger service unless it gains more control over the cost of its operations.

The federal Crown corporation purchases many of its services from two carriers – Canadian Pacific and Canadian National. But the costs of these services aren't negotiated in advance, so the carriers lack incentive to deliver them at minimum expense. Federal transport regulations also prohibit VIA from auditing railway charges. Yet VIA's lack of control over railway service charges accounts for much of its growing cost burden – reflected in a doubling of government subsidies between 1979 and 1983.

These are among the "serious institutional constraints" VIA faces in trying to improve passenger rail service, says a recent Council paper by economist Jerome T. Bentley.

Bentley's work is part of the Council's ongoing research into government enterprise (*Au Courant*, vol. 4, no. 3). Drawing upon his knowledge of Amtrak, the U.S. government-owned passenger rail carrier, his paper looks at the methods of measuring and promoting service quality in three key areas: reliability, scheduling, and passenger comfort.

To make progress in these areas, however, VIA must initially overhaul some of its operating procedures. Legislation establishing VIA in 1977 failed to define specific objectives and rail service standards, Bentley says. What the corporation needs most, as a result, is a set of clearly defined goals and objectives against which to measure its performance, he concludes.

Controlling costs

To improve cost control, Bentley suggests that VIA negotiate fixed-price agreements with the two carriers. This would enable more efficient budget planning on VIA's part and encourage the railways to keep costs below a specified maximum. VIA must also be given access to railway cost records in order "to make rational decisions regarding alternative service quality projects," the author explains.

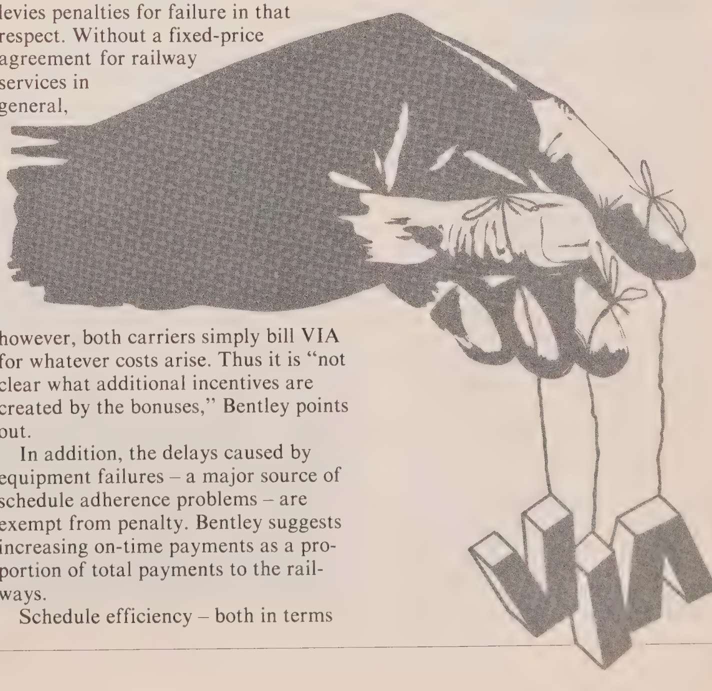
As a long-run goal, VIA should reduce, to the extent possible, its reliance on sole-source suppliers – namely, the railways; however, arrangements such as in-house maintenance must be accompanied by incentives to encourage internal cost efficiency. "Lump-sum subsidies (currently granted to VIA) do not provide incentives for service quality improvements," Bentley concludes, suggesting that performance be made a condition of government subsidization.

Potentially the largest obstacle to improved service is the condition of VIA's equipment. A recent study shows that more than 80 per cent of VIA's cars and locomotives are 30 years old. Even the new LRC (light, rapid, comfortable) equipment is "unreliable and expensive to maintain," the study finds.

Hence, Bentley concludes that Canada's passenger rail service "cannot be significantly improved without upgrading – in some fashion – the condition of its rolling stock."

Incentive schemes

These institutional constraints have affected VIA's ability to handle service quality problems. To promote reliability, for example, VIA either awards bonuses for on-time performance or levies penalties for failure in that respect. Without a fixed-price agreement for railway services in general, however, both carriers simply bill VIA for whatever costs arise. Thus it is "not clear what additional incentives are created by the bonuses," Bentley points out.



In addition, the delays caused by equipment failures – a major source of schedule adherence problems – are exempt from penalty. Bentley suggests increasing on-time payments as a proportion of total payments to the railways.

Schedule efficiency – both in terms of trip frequency and running time – is currently determined through contract talks with the railways. Improvements in that respect, consequently, depend on VIA's negotiating leverage and thus its control over railway service costs, Bentley concludes.

Overall, Bentley views competitive tendering as the most effective means of promoting service quality. It offers such advantages as affording the purchasing agent significant control through the threat of contract termination. At the same time, he acknowledges, the railways' monopoly over many aspects of passenger service, together with the presence of large sunk-capital costs (rail beds, rolling stock), makes this option unfeasible in some instances. Bentley favours using it where possible, along with performance incentives, as long as objective measures of performance are available and enforceable.

"Issues in subsidization with attention to the subsidization of passenger rail service," by Jerome T. Bentley. Discussion Paper No. 282.

Coal policies should be overhauled

Better resource management policies would instil new vigour into the coal industry of western Canada.

Specifically, changes in export management and domestic pricing policies – and a more efficient tax structure – would enhance its contribution to western income growth, a recent Council paper concludes.

Economist Brenda J. Dyack of the University of Alberta investigates the status of the coal industry and major impediments to its growth as part of the Council's recent study of the western Canadian economy (*Au Courant*, vol. 5, no. 2).

Coal has been mined in western Canada since the nineteenth century. Although production slowed in the 1940s, when oil, natural gas, and propane became attractive alternative fuels, the 1960s brought an upturn in demand with the emergence of coal-fired electricity-generating plants in Alberta and Saskatchewan. The oil crisis of the early 1970s encouraged export trade with major markets – for example, Japan, where sales of Canadian coal put Canada among the world's top coal exporters by 1981.

A modest outlook

In western Canada, however, coal mining remains a small part of the economic landscape. By province, the industry accounts for about 1 per cent of Gross Domestic Product, and it contributes slightly more than 1 per cent of provincial taxes.

The outlook, moreover, is relatively modest in light of the recent oil glut and the effects of the past recession on energy demand in general. Coal producers have already slowed production and reduced prices – as much as 15 per cent under one contract.

These income losses are difficult to minimize because of the underlying market structure of the coal industry. World trade in coal involves a host of suppliers but only a few buyers. Hence, consuming nations have the market power to influence the price and thus, theoretically, to pay less than the resource is worth, the author explains.

Trade in coal is further affected by the high cost of transportation, which restricts the West's access to all-important world markets such as Japan, where some two-thirds of Canadian coal exports are sold.

A unified front

Little can be done to alter these market circumstances; but, despite the trend to freer, more competitive international trade, Dyack suggests that western producers "may find it to their mutual advantage to share information and co-ordinate their actions to prevent further losses." This approach would require the full support of the industry, as well as the two levels of government.

"It may be that the only effective solution to combatting price losses imposed by powerful buyers is a reciprocal unified supply front," the author concludes.

The West is in a difficult position, however, because of its standing as a relatively high-cost producer. Thus it may not benefit as much as other suppliers from the formation of an international producer group – even though it could be forced to join one.

The author also questions the effectiveness of other resource management policies, including the recent attempts to encourage foreign investment in the coal industry and the nature of government subsidies to coal producers. She also criticizes the current domestic taxation and pricing policies. The structure of resource taxation is highly distorting, she says. In particular, the revenue-based tax applied to coal operations in Alberta and British Columbia "can lead to altered rates of extraction, exploration effort, cut-off grades and mine lives." The author suggests a profit-based tax instead.

Distortions also exist in the pricing of coal for domestic consumption. For example, coal is generally sold at cost to power plants in the West, in effect subsidizing western consumers. But this means that coal is not being used with maximum efficiency; nor is it being directed to its most profitable market.

The author recommends that coal be priced at its true value or that, at the very least, an attempt be made to estimate how much potential income is lost through consumer subsidies. This practice would ensure that when investment decisions were made, coal would be used in the most valuable way possible, and consumer incentives would not be distorted, she concludes.

"Western Canada's coal industry: Status and potential," by Brenda J. Dyack. Discussion Paper No. 278.

Gerry Kitchen for TransAlta Utilities

New policies would benefit the coal industry

Inflation's impact on business taxes: two views

If there were no inflation, Canadian industries would pay virtually no income tax. Or so argues a new Economic Council paper.

In 1981, for example, inflation increased the taxable income of the country's non-financial industries by $15.1 billion. That meant a net tax overpayment of $7.7 billion, almost exactly what those industries actually paid in taxes in 1981, according to calculations by Harvard University economist Glenn P. Jenkins.

"The corporation income tax system has been made so generous that were it not for the spurious effects of inflation the effective corporate income tax rate would, on average, be close to zero," Jenkins concludes in a new Council paper. His analysis, part of the Council's ongoing research into taxation issues (*Au Courant*, vol. 5, no. 1), constitutes one of two recent papers on the impact of inflation on the taxation of corporate income.

Jenkins explains that inflation increases taxable income because of the methods used to determine cost depreciation, inventory values, interest income, and the cost of holding cash balances. Partially offsetting these effects is the provision for the full deduction of interest expenses during periods of inflation.

Discriminatory impact

Overall, these factors "tended to increase the taxable income of corporations substantially" over the period 1965-81, Jenkins finds. The increases were also highly discriminatory, affecting some industries considerably more than others. Furthermore, they caused significant reductions in short-term cash flows. This, in turn, affected short-term investment and in some cases created financing problems, the author notes.

Partly to compensate for the large amounts of spurious income being added to the tax base by high inflation, the government introduced tax concessions that effectively reduced tax payments. These measures are still in place even though inflation has fallen off consistently since 1981. Consequently, the government now faces a potentially serious shortfall in its corporate tax revenues, Jenkins contends. He suggests that many of these concessions be removed.

Were it not for the spurious effects of inflation the effective corporate income tax rate would be close to zero.

At the same time, his findings show that even relatively low rates of inflation "are likely to increase the overall level of taxation borne by business." Thus the author supports the notion that the "business sector would be substantially better off if the Canadian tax system were reformed so that the impact of inflation was reduced."

Opposing view

Another Council paper that analyses the proposal to index the tax system in order to take inflation into account argues, however, that the costs of so doing appear to outweigh the benefits.

Ottawa-based economic consultant Patrick Grady, in looking at the practical aspects of indexing both business and investment income, presents evidence that contrasts with that of Jenkins. He concludes, for example, that tax concessions introduced in the last two decades have generally caused more distortion than inflation. Inflation, in fact, probably has not caused an increase in the effective tax rate, he argues, in large measure because of the offsetting impact of the interest expense deduction on debt-financed investments.

Inflation has distorted tax rates across firms and industries . . . rewarding those with lots of debt.

"In spite of the differences of opinion concerning the impact of inflation on the aggregate effective tax rate, there is general consensus that inflation has distorted tax rates across firms and industries, penalizing those with large stocks of long-lived depreciable assets and rewarding those with lots of debt," Grady writes. He points out that the elimination of the interest expense deduction (as a result of full indexation) could exacerbate the effects of high interest rates on firms as well as remove the incentive for debt-financed investment. This would be done "at risk of seriously depressing investment spending," the author contends.

Other costs

The administrative costs of full indexation would also be significant. Comprehensive indexation has international implications as well. If it leads to the raising of taxes above those in the United States, for instance, it could discourage U.S. investment in Canada.

"If inflation continues to decline, however, there is no reason to adopt comprehensive indexation regardless of what is done in the United States," he says. "It would just add another unnecessary element of additional complexity to the tax system."

Instead, more attention should be given to rationalizing the structure of tax incentives, with a view to eliminating the distortions caused by the tax measures originally introduced to compensate for high inflation, he concludes.

"Indexation and the taxation of business and investment income," by Patrick Grady. Discussion Paper No. 283.

"The impact of inflation on corporate taxes and the cash flows of business," by Glenn P. Jenkins. Discussion Paper No. 286.

Towards more stable employment in the West

Employment in western Canada would be considerably more stable if governments pushed growth in certain manufacturing industries, a new Council paper suggests.

This would help reduce the West's long-term dependence on natural resources and thus the impact on employment of the "boom and bust" cycles of a resource-based economy, the paper finds.

Council economists Harry Postner and Lesle Wesa examine employment instability in the four western provinces over the 1970-83 period, measuring it on the basis of month-to-month variations from a long-term growth trend.

The findings show that while such instability is generally not much more of a problem in the West than elsewhere, minimizing it would be equivalent to "maximizing economic diversification." A more diversified economy is better able to "avoid recurring periods of high unemployment," the authors point out.

The brunt of their analysis – carried out as background research for the Council's recent study of the western Canadian economy (*Au Courant*, vol. 5, no. 2) – focuses on how to minimize provincial employment instability.

Authors' approach

To do this, the authors employ an approach known as "portfolio analysis" to determine what changes in the distribution of sectoral employment – increases or decreases – would lessen overall provincial employment instability. These changes are kept to levels considered historically realistic, the authors note.

They explain that a particular industry will promote stability not only when its employment fluctuations are relatively small but primarily when these fluctuations tend to offset those experienced by other industries in that province.

Hence, when two industries exhibit countervailing patterns of employment behaviour – for example, one expands while the other contracts – then there is successful diversification of the employment resources in that province, the authors say.

Three scenarios are developed to gauge the impact of promoting growth in certain areas. The first scenario is neutral in that it allows the same degree of employment change for all sectors; the second and third scenarios are biased respectively in favour of manufacturing in general and secondary manufacturing in particular.

The findings

The results show that the manufacturing sector as a whole is always a more stable source of employment than agriculture, mining, or construction; it even compares favourably with commercial services. But the trade and the finance, insurance and real estate sectors usually display greater overall employment stability.

At the same time, certain industries within the manufacturing sector provide viable sources of stable employment. Though not usually the same in each province, the ones that perform well regionally include printing, publishing, and the electrical and chemical products industries. Most of these results apply to the other scenarios as well.

What's more, the authors find that overall gains in stability occur "without sacrificing other economic goals" - namely, the maintenance of high average employment earnings and long-term employment growth rates. Indeed, many of the industries found to promote stability do, in fact, meet or exceed the provincial averages in these respects.

The authors concede, however, that overall gains in stability "only become significant in the very long term." The provinces of Manitoba and Saskatchewan benefit the most from the economic diversification process.

Greater potential

Also, the authors suggest fine-tuning the portfolio-analysis technique, essentially by providing a more complete breakdown of employment at the industry level. This "raises the potential for more effective industrial diversification," they conclude.

"Employment instability in western Canada: A diversification analysis of the manufacturing and other sectors," by Harry H. Postner and Lesle M. Wesa. Discussion Paper No. 275.

How unstable is provincial employment?

Employment fluctuations as a percentage of total provincial employment, based on two-month averages

Prairie farmers would benefit from wheat agreement

Canada needs an international wheat price agreement to help stabilize Prairie farm incomes, a recent Council paper claims.

Three-quarters of farm income instability on the Prairies is linked to crop farming and thus to wheat production. Since half the country's wheat is sold abroad where prices are highly volatile, efforts to reduce income instability must consider the international wheat price.

Council economist Jacques Jobin examines the issue by focusing on crop and livestock production, the two principal Prairie agricultural activities. His work forms part of the research undertaken for the Council's recent study of the western Canadian economy (*Au Courant*, vol. 5, no. 2).

Causes of income instability include poor weather and disease, changing consumer preferences, market conditions, the existence of production cycles, and even better technology (which, for example, can lead suppliers and consumers to switch from one farm commodity to another). These forces can have a drastic effect, not only on farmers but also on business activity in related industries such as transportation, farm machinery and supplies, packaging and retailing.

Author's approach

Jobin measures instability in terms of deviations from a growth trend. He also uses a procedure known as "component analysis" to pinpoint the sources of instability from among the variables that are components of farm income, such as prices, revenues, expenses, and production (cultivated area and yield).

Generally, his findings show that farm incomes are most unstable in Saskatchewan, though the instability of farm variables in all three provinces has been on the decline since 1926. The notable exception is the price of wheat, which has grown increasingly unstable since the mid-1940s.

Jobin examines crop and livestock farming separately, finding that incomes from crop farming are intrinsically more unstable than those derived from livestock operations.

In the case of the latter, instability arises mainly from the relationship between price and production, Jobin finds. The time lags involved in producing livestock – one year for pork, three years for beef – create a production cycle in which prices are low as long as the product is abundant but rise steadily as it becomes increasingly scarce. Because of that linkage between production and price, Jobin concludes that we "cannot establish precisely which is responsible for instability and to what extent."

Crop farming presents less difficulty in this respect. For grains other than wheat (barley, flax, and canola), production accounts for more than two-thirds of income instability.

Fluctuations in the area cultivated account for most of this production instability, largely because of farmers' attempts to maximize incomes from sales to the Canada Wheat Board. The Board quotes prices for various grains at the beginning of each season, in effect signaling to farmers which crops have the highest income-earning potential.

In the case of wheat, price and production contribute equally to instability. As with other grains, variations in the area cultivated have been the main source of production instability; yields have remained stable.

Jobin finds this trend alarming, because stable yields depend on such unreliable factors as good weather and other favourable conditions. He recommends continued research to develop hardier strains of wheat, particularly drought-resistant varieties.

Need for stable wheat price

But the "cornerstone of farm income instability on the Prairies" continues to be the international wheat price, Jobin concludes. Its stability ensures not only steadier incomes for grain growers but also more stable costs for livestock producers who rely heavily on feed grains. Regrettably, however, an international wheat price agreement "may well be wishful thinking" – at least for the immediate future.

Since the thirties, governments have offered income support through numerous programs and policies. The most effective (and expensive) scheme, Jobin finds, has been the Western Grain Stabilization Program, launched in 1976. It insulates producers from sudden dips in cash flow but yet enables them to benefit from any increases. Another effective measure, the two-price wheat policy (launched in 1973), protects both consumers and producers from severe fluctuations in the international wheat price.

"Farm income instability on the prairies," by Jacques Jobin. Discussion Paper No. 273.

National Film Board of Canada

Stable wheat prices would help Prairie farmers

Does Canada need an industrial policy?

Despite repeated calls for a government-led industrial strategy, Canada's manufacturing sector is probably better off without one – at least for now.

Indeed, the sector is adapting surprisingly well as Canada moves to freer trade and, hence, less government intervention in the marketplace, according to a new study for the Council.

But the controversy over the need for an industrial policy remains a perennial topic. It has become especially lively in recent months, in the context of a new examination of the merits of comprehensive free trade with the United States. The key question is whether trade liberalization should be extended without first instituting special measures to prepare Canadian industry for the potentially damaging onslaught of intense foreign competition.

The Council study – part of its research into technology, trade, and income growth (*Au Courant*, vol. 4, no. 1) – was conducted by Council economist Roy A. Matthews, in collaboration with Donald J. McCulla of the federal Department of Regional Industrial Expansion. The conclusions are attributable to the authors, not the Council.

Matthews approaches the issue by focusing primarily on changes in the manufacturing sector from 1960 to 1980. The study does not look beyond this point, partly because results from the worldwide economic slowdown of 1981-82 would obscure long-range trends. The author also documents the impact of past policies in shaping Canada's industrial base.

Looking back

Historically, Canada has long had an industrial strategy of sorts. The National Policy of 1879, for example, included import tariffs (taxes) on foreign products sold in Canada.

This permitted "infant" Canadian firms to establish themselves, despite the inadequate scale of a small economy, which prohibited the specialization necessary for optimum production efficiencies.

But tariff protection also permitted more firms to operate on an economically inefficient scale. Hence, trade barriers weakened the sector's overall competitiveness, Matthews concludes.

Today, the problems of inadequate scale and thus insufficient specialization "may not be quite as formidable," the author finds. New evidence suggests that the Canadian market "is sufficiently large, in principle, to provide for fully efficient production techniques in the great majority of industries," Matthews concludes.

Meanwhile, trade liberalization has begun a process of "industrial rationalization." The sector adjusts by expanding production in areas of comparative advantage at the same time as it withdraws from the spheres more efficiently served elsewhere. But this raises concern over whether Canada, in the process, is "de-industrializing" – losing more than it gains.

The evidence

Matthews' research indicates otherwise. Manufacturing industries, he concludes, have "held their own in overall terms," with the increase in imports to Canada balanced almost exactly by Canadian export successes.

In fact, in 1980 Canada accounted for a larger share of the developed world's manufactured exports – slightly more than 4 per cent, compared with just over 3 per cent in 1960. The trade deficit on manufactured goods in 1980 was also proportionately smaller relative to the country's overall trade and output.

In addition, Canadian exports generally rose less in price than comparable goods produced and sold in ten of the country's most important foreign markets. At home, the price pendulum swung back and forth to keep Canadian goods on par with comparable imports.

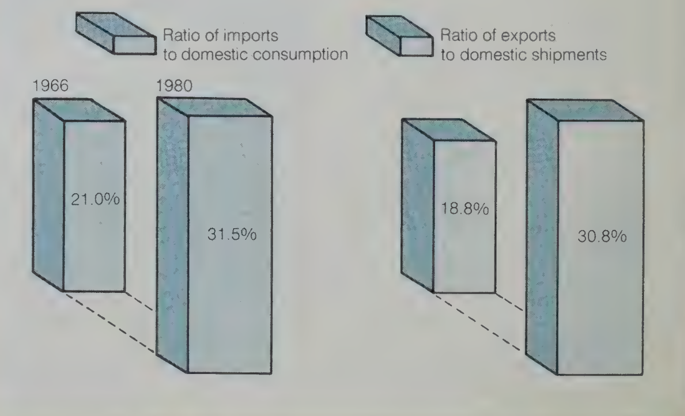
A disquieting trend does exist, however, in the area of manufacturing costs. Though Canada has maintained its position in this regard, its performance rests on the mutually offsetting effect of sluggish productivity gains and slowly growing labour compensation.

A maturing process

As a whole, the sector did lose ground in more areas than it gained, but its aggregate standing did not alter. The move to a more concentrated spectrum of manufacturing activity, the author concludes, "bears all the marks

Competition spurs trade

Import penetration and export orientation of manufactured goods, 1966-80



of a maturing industrialization process."

These adjustments, in fact, generally coincide with recent work on revealed comparative advantage in Canada and with data on the country's "factor endowments" – the types of resources needed to be competitive in specific fields.

Canada's generous endowment of land, for example, accords with the emphasis on primary product resources. Among the most competitive industries in Matthews' analysis were wood products, paper and allied products, iron and steel, nonmetallic mineral products, and petroleum and coal products, along with some individual categories of fish products, a small selection of textile and clothing goods, and some types of furniture.

Industries other than the primary product group are also making inroads – most notably transportation equipment, machinery, chemical processing, and fabricated metal goods, among others.

Despite these generally positive developments, vested interests in the status quo – business with sunk capital, workers with established jobs – tend to oppose strenuously the adjustment to a new situation. And of concern to governments is the maintenance of balanced economic growth and income across the country.

Such concerns have led to the call for a "defensive" industrial strategy – one that protects existing industries from wholesale dismemberment by foreign competition. Others advocate an "innovative" policy to encourage the rise of new industries considered vital to future economic success.

In both cases, the idea has developed that an industrial strategy must be selective. Indeed, giving blanket encouragement to every inventive notion would be a waste of taxpayers' money. But there is nothing in the way of analytical tools to provide a pointer, so the grounds on which to make a selection "are far from clear," Matthews concludes.

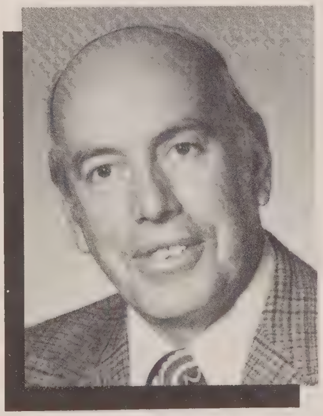
Moreover, the rigid policy framework associated with an overall strategy could actually inhibit industrial responsiveness to rapidly changing market conditions. Similarly, the comparative advantage of a country is not static but dynamic; it can change with the changing circumstances of industrial development. Unfortunately, the fragmented structure of Canadian industry as it evolved under trade protection also makes it difficult to see where such comparative advantage lies.

Thus, while the debate should continue, Matthews' verdict on the case for an industrial strategy "can be found in trials under Scottish law – not proven."

Structural Change and Industrial Policy: The Redeployment of Canadian Manufacturing, 1960-80, by Roy A. Matthews (EC22-127/1985E; $6.95 in Canada, $8.35 elsewhere).

New members appointed to the Economic Council of Canada

Dian Cohen is president of the economic communications consulting firm Cohen Couture Associates of Montreal. She is also an economic columnist, whose writing appears regularly in various newspapers and magazines.



George A. Key is chairman and director of a number of Atlantic Canadian corporations. He is also a director of the Canadian Chamber of Commerce and the Council for Canadian Unity, and is vice-Chairman of the Atlantic Transportation Commission.

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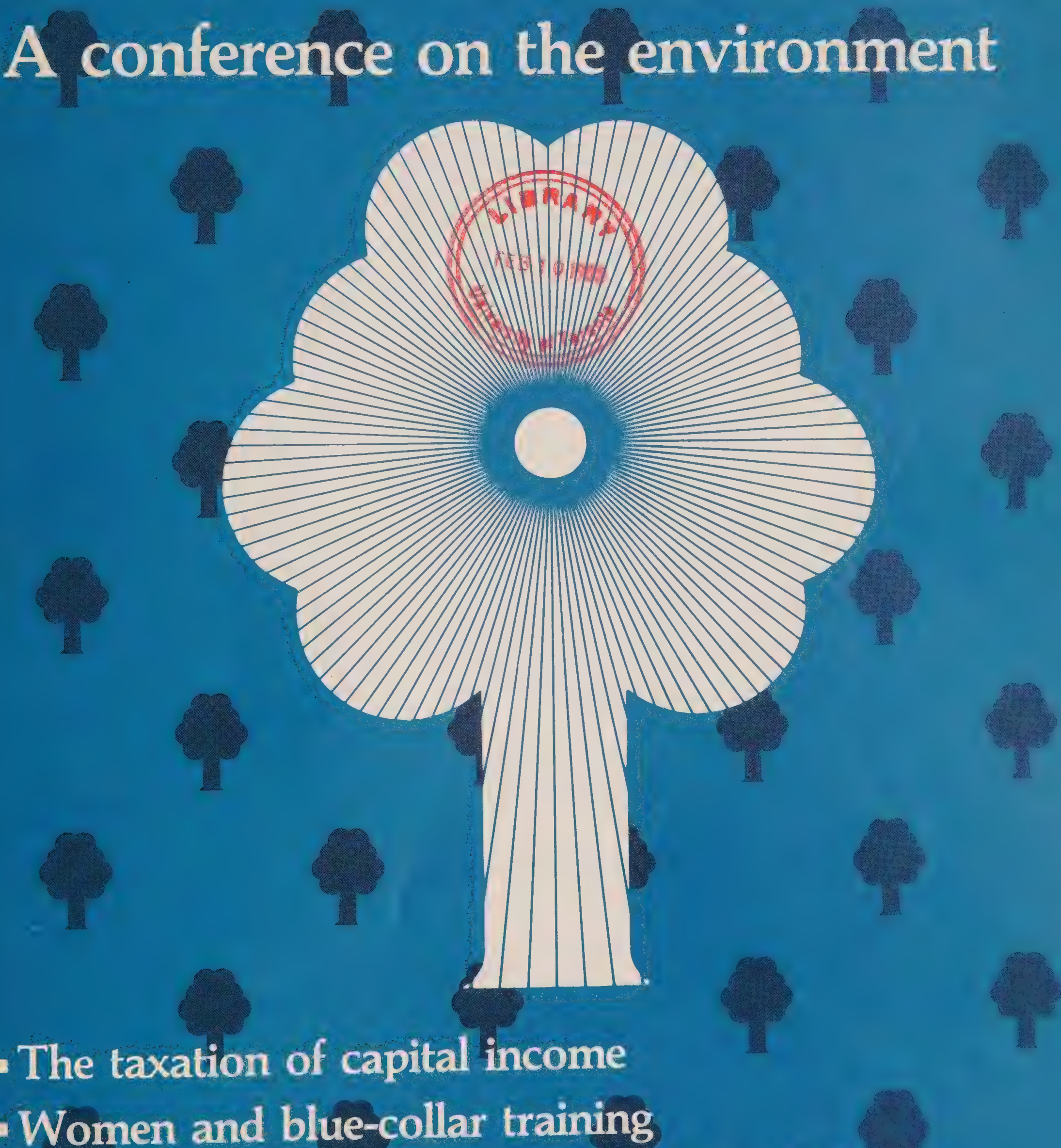
Economic Council of Canada

Volume 6, No. 3, 1986

A conference on the environment



- The taxation of capital income
- Women and blue-collar training
- An interview with the Council's new chairman

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). One new title has been published since the last issue of *Au Courant*.

Women Re-entering the Labour Force and Training Programs: Evidence from Canada, by *Daniel Boothby* (EC22-129/1985E; $5.95 in Canada, $7.15 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 288 "Savings and taxes in a life cycle growth model with age-earnings profile," by *Denis Gauthier*.

No. 289 "The taxation of capital income in Canada: A comparison with Sweden, the U.K., the U.S.A., and West Germany," by *Michael Daly*, *Jack Jung*, *Pierre Mercier*, and *Thomas Schweitzer*.

No. 290 "Political economy of tax reform: Six case studies," by *Douglas G. Hartle*.

No. 291 "On the importance of endogenous domestic savings response for capital income taxation in open economies," by *David F. Burgess*.

No. 292 "A study of issues in government enterprise finance with applications to Air Canada and Canadian National Railways," by *D. H. Drury* and *C. W. Sealey*.

No. 293 "A comparison of effective marginal tax rates in Canadian manufacturing," by *Michael Daly*, *Jack Jung*, *Pierre Mercier*, and *Thomas Schweitzer*.

No. 294 "Indirect federal taxes, the cost of capital and the issue of tax incidence," by *W. R. Thirsk*.

Reprints

The following Council reports have been reprinted and can be ordered in accordance with the information below:

Living Together: A Study of Regional Disparities (EC22-54/1977E; $7.50 in Canada, $9.00 elsewhere).

Responsible Regulation: An Interim Report (EC22-70/1979E; $7.25 in Canada, $8.70 elsewhere).

In Short Supply: Jobs and Skills in the 1980s (EC22-108/1982E; $7.95 in Canada, $9.55 elsewhere).

Connections: An Energy Strategy for the Future (EC22-124/1985E; $9.95 in Canada, $11.95 elsewhere).

Also available . . .

Summaries of the following Council reports are available (in limited quantities) free of charge from the Information Division (address below):

An Outline of a New Trade Strategy for Canada (Looking Outward), 1975.

Living Together: A Study of Regional Disparities – Highlights, 1977.

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Canada, K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion Papers, *Au Courant* and the *Annual Report* are available without charge from the Information Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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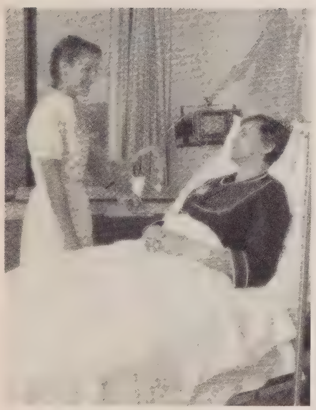

Contents

Au Courant est également disponible en français.

The major reports featured in *Au Courant* reflect the viewpoint of the Economic Council.

Research studies, discussion papers, and other background papers are prepared for the use of the Council by members of its staff and others. The findings of these reports are the personal responsibility of the authors. Neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

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The environment: problems and prospects

Protecting the environment doesn't come cheaply. For the majority of countries in the Organisation for Economic Co-operation and Development, expenditures on preventing (or reacting to) environmental damage can amount to as much as 2 per cent of gross domestic product.

Finding the most cost-effective forms of protection will enable countries to direct more of those expenditures toward other social objectives, including economic growth. Doing the job well environmentally is usually more resource-efficient and thus more economic. In most cases it is also less costly to prevent environmental damage than to clean it up.

At the same time, many well-intentioned initiatives designed to promote economic growth can have a disastrous impact on the environment. Indeed, little is known about the precise risks to human health or life of the massive amounts of wastes that are being discharged into the air and water and that subsequently work their way through the soil. This especially presents problems for the legal system in providing fair compensation when damage does occur. As well, many of the benefits of controlling pollution are not spelled out because of the difficulty in calculating the worth of "avoided damage." The Council's 1981 study entitled *Reforming Regulation* concluded that "if Canadians collectively prefer healthier, safer and esthetically more pleasing environments...they may be better off and yet appear worse off by national accounts measurements."

In the words of Council Chairman Judith Maxwell: "There is now a broad recognition that economic activity in its many forms...must take account of the complex ecological interrelationships that nature weaves." That recognition, along with the Council's long-standing interest in this regard, culminated in a two-day Colloquium on the Environment late last year. More than 100 experts from diverse backgrounds in scientific research, economics, environmental management, public administration and industry took part in the discussions.

The Colloquium proceedings are highlighted on the next eight pages. The papers presented over the two-day period will be collected in a volume of proceedings to be published later this year.

International perspectives

Despite some significant success, certain industrialized nations have been quite slow to repair the considerable environmental damage of the 1950s and 1960s. As for the developing world, many of these countries are in deeper debt ecologically than financially.

One reason, according to James MacNeill, secretary general of the World Commission on Environment and Development, is that environmental concerns remain remote from economic and political decisions rather than integral to them. In Canada, for example, soil erosion is costing farmers $1 billion a year in lost income, largely because of the unintended environmental effects of government subsidies that encourage marginal farming practices. Reports from Europe and the United States tell a similar story, MacNeill said.

As the world becomes more economically integrated – exports now account for 22 per cent of world output, com-

pared with 12 per cent in 1962 – it also becomes more ecologically interdependent. Higher levels of imports into one country translate into increased pressure on the environment of another, for example.

Newer, more complex issues – from climatic change to forest depletion – are being added to the environmental agenda. Their widespread impact on the economy is difficult to assess. These issues also pose questions as to the value of short-term economic gain when the price might be social disruption and resource depletion in the future. Thus changes are required "in the design of many of our policies and some of our institutions," MacNeill concluded.

He explained that environmental agencies were created to clean up the destruction of the 1950s and 1960s. As such, they were an "add-on" to existing institutions responsible for economic development. To be more effective, these agencies should be allowed to develop preventive pollution control strategies as part of the government's overall economic initiatives, MacNeil argued. This would require such mechanisms as budget review procedures to encourage discussion about environmental implications among the appropriate government groups in the early stages of policy development. More efficient tactics are needed to combat existing pollution as well.

In addition, bureaucracies will have to start recognizing the importance of environmental investment to economic development, MacNeill noted. Spending on pollution control has actually contributed to economic growth and employment in the industrialized world over the past 15 years, without any serious, adverse impact on inflation, he emphasized. In his opinion some of the key people in government and the private sector have recently become much more informed on these issues.

Environmentalists have to swallow their puritanism and get into bed with economists.

MacNeil questioned why countries "have been so slow to integrate effectively environment with social and economic development," in the light of growing knowledge and awareness (and even consensus) about the wisdom of this approach.

Discussant Colin Isaacs of Pollution Probe said that Canada has "failed miserably" in this regard, arguing that "major changes in attitudes" are needed. Environment Canada is generally viewed as "a nuisance" by other government departments and has no influence on economic policy development, he said. Other problems arise because natural resources are undervalued and because the tax system in some cases discourages recycling, he reported.

Discussant André Marsan of André Marsan & Associates in Montreal suggested adopting what he called "development ethics" in order to encourage the preservation of the environment among future generations. Assessment tools to keep track of the state of the environment are also needed, he said, because of the difficulty in measuring the impact of economic development. For example, reforestation makes economic sense in the long term but not necessarily in the short term. Marsan called for "a new synthesis" of environmental and economic concerns, suggesting that the Economic Council undertake an interdisciplinary project to encourage progress in that area.

As one participant noted during the floor discussion, evidence of that new synthesis has emerged in the creation of the World Commission on Environment and Development, the first of its kind – due to report back to the United Nations General Assembly upon completion of its mandate in 1987.

In response to a related question, MacNeil added that while governments in general are beginning to understand the importance of responding to environmental concerns, they lack the necessary advisory institutions. To make environmental matters more politically relevant, he said, environmentalists have to "swallow their puritanism and get into bed with economists," who persuade the decision makers with respect to economic development.

The failure of governments to take more action is due in part to their natural desire to please an electorate that is more interested in remedying immediate economic problems than in forestalling distant environmental events, he added.

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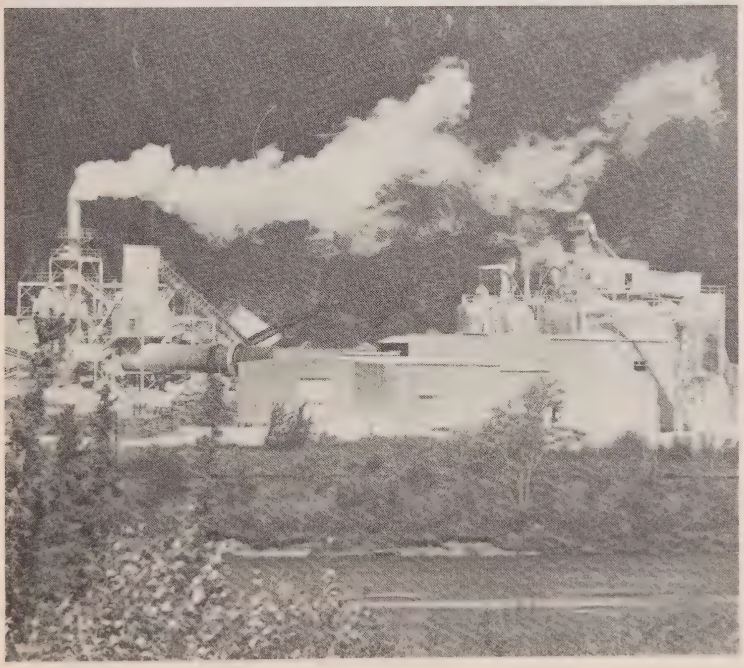

Slow progress in cleaning up the environment

Water quality

With about one-quarter of the total world supply, Canada has more fresh surface water than almost any other nation.

But that abundance is deceptive because it disguises regional shortages, the impact of droughts and flooding, the effects of pollution, disruptions in natural water flows, and conflicts among users and uses. Other problems arise because of the division of responsibility for water management between the provinces and the federal government, with the former holding most of the power in this regard, and the latter maintaining control of navigation, fisheries, and certain other related concerns. This division, coupled with perceptions of resource abundance, has resulted in "a loose and incoherent policy framework" that inhibits efficient water management in Canada, said Peter H. Pearse of the University of British Columbia, chairman of the recent Inquiry on Federal Water Policy.

As an example, insufficient attention is paid to the environmental consequences of using a river system or "watershed" for such diverse purposes as waste disposal and agricultural irrigation. Sometimes these watersheds cross provincial or international boundaries, but attempts at co-operative management "are meagre," Pearse said.

What is called "integrated watershed management" is thus essential, in his view. This involves setting out objectives for water quality and water flows within each river system, and fully assessing the impact of water uses and related developments. Given that co-operation between the governments involved remains a major difficulty, individual watershed authorities whose power is not restricted by political boundaries "may be at least equally well suited to assume water management responsibilities," Pearse suggested.

Standard procedures for assessing such major developments as hydroelectric projects are also required, with attention being paid to two particular concerns – the risk and uncertainty included in each project, and the need to include the public in major decisions.

Because water is priced at nominal or zero cost, it is not being used efficiently. A better pricing system would not only improve efficiency but also generate revenue, encourage conservation, and reduce both environmental pressures and the infrastructure costs of water supply and treatment facilities. Rights or permits to use water and discharge wastes could be similarly effective, Pearse maintained.

Subsidies to increase water supplies or control pollution also hinder effective resource management, insofar as they reduce costs, thereby causing an excessive increase in demand.

Finally, equipment standards for water users and waste dischargers provide little incentive to conserve water or control pollution beyond the adoption of mandatory technology. Above all, these standards fail to recognize the capacity of different watersheds and the environmental pressures on them. Similar deficiencies characterize the discharge standards limiting contaminants in waste water.

Discussant Jean-Louis Sasseville of the University of Quebec said Pearse's recommendations fail to take full account of the political and institutional constraints caused by the split in authority between the federal and provincial governments. Consequently, many of them will be difficult to implement. Sasseville suggested undertaking more research on public attitudes as a basis for reforming water management policies.

Discussant Andrew Hamilton of the International Joint Commission said that the recommended changes represent only "modest changes to the status quo." He argued that to be effective, water management should be linked to air and soil management. That means developing an institutional framework that would unite these concerns, he concluded.

During the floor discussion, one participant defined two areas requiring research: the first was concerned with the problem of defining water rights, and the second, with the difficulties raised when water rights interfere with the multiple uses of water. Several questions were asked about the appropriateness of using the watershed as a unit of management, given that some water problems (such as airborne pollution) transcend watersheds. In a related comment, Pearse noted that past attempts at watershed management in Canada have failed, primarily because of elaborate and inflexible planning.

Other participants were concerned about reconciling short-term economic concerns with future environmental considerations. Pearse responded that

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An abundance of water hides serious management problems

industry would simply have to learn to economize in its demand for water.

In a separate evening speech, Camille Dagenais, chairman of the SNC Group of Montreal, said that, above all, proper water management "is the last best hope" for many developing countries. For example, man-made reservoirs created by dams have been used in parts of Africa to irrigate once-desolate regions, thereby overcoming drought and famine. Dams can also be used for controlling floods, as a source of electricity, and for regulating navigation flows, Dagenais said.

Whatever negative environmental effects stem from these projects "must be balanced against the even more negative ones of widespread famine, death, and the turning to desert of once green and fruitful land," he concluded.

Forest management

Unless Canada addresses its forest management problems soon, it may find itself strapped for resources that are now abundantly available in its own backyard.

Paradoxically, Canada is in no danger of exhausting its forest reserves; they may actually be growing in size. The problem is more that the wrong kind of forest is growing. As a result, the industry itself "cannot be sustained more than a few decades" without proper management, said Gordon Baskerville, dean of forestry at the University of New Brunswick.

The forest structure has been altered significantly by economic exploitation, he explained in his presentation. Large trees are no longer as readily available as they were 30 years ago, for example. Moreover, almost all the commercially viable sites have since been exploited.

Biologically, each forest is composed of more than one "stand" type – an area characterized by its species mixture and developmental patterns. Some stands develop more rapidly than others. Consequently, the problem of resource management, rather than being universal, is unique to each forest in Canada, and solutions will have to be tailored accordingly.

Forest management will come at considerable cost to current economic efficiency, however. In effect, forest resources will have to be carefully managed instead of freely exploited. This will impose costs, in view of the management regimes required for that purpose.

Proper management requires identifying the forest areas to be managed, as well as the managers themselves – an important task, Baskerville noted, given the multiplicity of government bodies having some measure of authority over Canadian forests. If clearly stated, management goals and objectives can preserve the wildlife habitat and still meet the demand for raw resources. Forecasting is crucial because it provides information about emerging problems and will ensure adequate resource supply in the future.

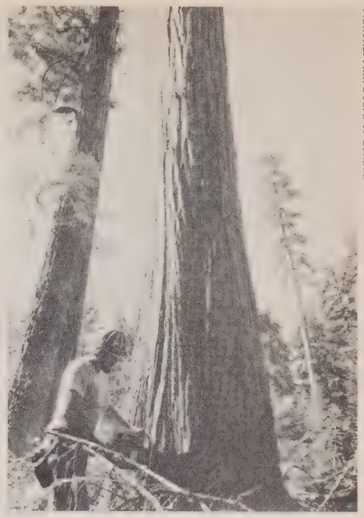
Baskerville identified the four tools of forest management: the scheduling of harvests, the allocation of products from each harvest, forest renewal, and protection.

Recovery is still possible in most Canadian forests, Baskerville said, but "only the expensive options" remain. The country's forests have been exploited so heavily over the last century that it will take "50 to 100 years of management to fix them," he maintained.

The highest risk of failure, he warned, stems from continued inaction. He pointed out that Canada had forest management plans 40 years ago that were never implemented, partly because of the "failure of the proponents to lay out...goals and guidelines in measurable units instead of qualitative rhetoric."

Discussant Marcel Lortie of Laval University noted that in parts of eastern Canada poor management has exhausted the supply of certain tree species for commercial harvesting, including white pine and some types of spruce. Instead of harvesting smaller trees as larger ones are depleted – or moving out to regions that are increasingly distant from production plants – Lortie suggested improving production technology to get more value from the raw resources that are being processed.

Discussant Peter Pearse of the University of British Columbia said that it is not clear whether forest resources have been depleted too rapidly from either an economic or an environmental point of view. He observed that there has been a transition from dependence on virgin timber (a stock resource) to reliance on renewable resources that have to be managed. Provincial policies are "doomed to fail," he concluded, because they do not take account of this shift. Pearse called for immediate research to identify policy alternatives.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A shortage of large trees for commercial uses

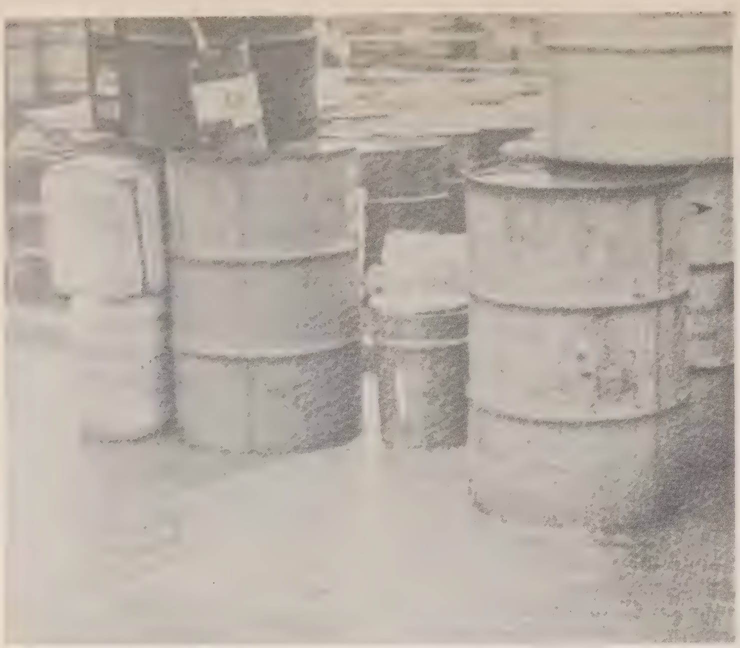
In the floor discussion, one participant noted that the decision to exploit forest resources is in fact a form of management. Doing it properly, however, requires using all four management tools, including forest renewal, Baskerville responded. Pearse added that making industry pay for the renewal of forest resources would discourage waste and abuse.

Several questions were raised about forest ownership and accountability of the owners. While Pearse replied that the provinces are accountable as managers of this resource, Baskerville added that management problems arise because "nobody owns it."

Toxic wastes

About half a million tons of hazardous industrial waste are being disposed of improperly each year in Ontario. Often that includes many of the most toxic and difficult-to-treat substances.

Ontario, along with the rest of Canada, lacks an approved treatment facility for poisonous pollutants such as PCB compounds. As a result, concentrations of these toxic substances are becoming increasingly detectable in virtually every form of life. Hence the need for proper waste management is not just a matter of ethics but "a question of thresholds of human health effects," said Donald A. Chant, chairman and president of the Ontario Waste Management Corporation (OWMC).



Pollution Probe

Toxic waste is not being disposed of properly

Ontario permits the disposal of untreated waste in unsuitable dumps because there are "no realistic alternatives," said Chant, who is a co-founder of Pollution Probe and the author of several books on the environment and toxicology. In fact, the only major waste disposal firm operating in the province lacks the facilities to treat inorganic industrial waste, which represents 70 per cent of all the waste (1.5 million tons) produced in Ontario each year.

In the 1970s, the province tried but failed to encourage the development of modern waste treatment facilities; so it created a Crown corporation (OWMC) in 1981 to develop a proper waste management system. Chant cited the merits of a public corporation, including its long-term responsibility to the public and the fact that it is required to treat all toxic wastes regardless of the difficulties involved.

But now the government must tighten waste disposal regulations in order to make OWMC's system competitive with the low-cost but environmentally dangerous methods currently allowed. While tighter regulations will raise disposal costs, they will at the same time attract investment and increase competition in the treatment, reduction, and recycling of waste. To encourage and maintain that competition, the proposed OWMC facility will initially handle only 20 per cent of the waste not currently being treated and will, at most, double that capacity later on.

For practical reasons, the OWMC favours a centralized treatment facility. This will keep costs down and, above all, reassure the many people who oppose multiple plant locations, partly from fear of toxic substances and partly from concern about the impact of a waste treatment plant on nearby property values.

Discussant Irving Fox of the Westwater Institute in Smithers, B.C., argued that the government should relinquish authority to regulate toxic wastes to a commission representative of the full range of interests concerned – including environmentalists, consumer groups, waste producers, government bodies, and the general public. This would ensure what he called "consumer sovereignty," whereby those affected would determine whether the benefits justify the costs. "If the public is not well represented," he added, "the chances are greater that the OWMC will charge prices that in effect subsidize the production of hazardous materials."

Fox also suggested giving the OWMC responsibility for monitoring waste disposal. He further recommended that assistance be provided in the courts to groups that take legal action when they believe the environment is threatened. At the same time, Fox questioned the use of a Crown corporation, on the grounds that in time it might become unresponsive to public concerns. Public companies also lack the profit motive to increase efficiency and to adopt newer, better technology in the process, he argued.

Discussant Pierre Grenier of Stablex Canada Inc., a Quebec-based waste disposal firm, said that a public corporation would not be needed if the government adopted more stringent waste disposal regulations. These changes would encourage the private sector to develop its own system of toxic waste elimination. That system would likely be more efficient and innovative than a publicly owned one, Grenier said.

Chant responded to the discussants' remarks by noting that the OWMC has solicited widespread input – having held meetings with some 2,000 groups – as part of its site-selection process. While agreeing that tighter waste disposal regulations are needed, Chant said that giving the OWMC the power to monitor waste disposal practices throughout the province would result in a conflict of interest.

During the floor discussion, one participant noted that it would be difficult to design waste disposal facilities without first developing regulations to gauge the demand for such facilities. Another argued that no system of regulations would prevent the so-called "mid-night dumper" from illegally disposing of wastes and suggested that some incentives be introduced to promote proper waste disposal. Incentives could also be used to overcome public opposition to the location of waste disposal facilities.

Climatic change

Prairie farmers could suffer severe losses in soil productivity if they do not prepare for what could be the most dramatic changes in the climate in over 10,000 years.

Globally, too, these changes will have widespread impact – affecting everything from water supply and power generation to food production and pollution control. The global economy could face serious instability if plans to deal with these concerns are not developed now, warned Dr. Kenneth Hare, provost of Trinity College at the University of Toronto and chairman of the Canadian Climate Program Planning Board.

Increasing amounts of carbon dioxide (chiefly from fossil-fuel consumption) and other gases in the atmosphere cause solar heat to be trapped there, Dr. Hare explained. As a result, the world is becoming warmer, and the consequences of this "greenhouse effect" will be readily apparent by the end of the century.

As far as Canada is concerned, this development will have both positive and negative results: there will be longer periods of more favourable growing conditions, for example, but, at the same time, less stored soil water – particularly in the Prairies where the capacity of Canada's inland granary could be threatened. The impact of the climate on the earth's surface and its productivity can already be documented, Hare said, citing the effects of drought in Africa as a prime example.

While Canada has the technology and expertise to cope, what's needed is "a framework within which to use this intelligence," he pointed out. Existing institutions will remain "out of kilter" until they start to take into consideration the impact of climatic changes in their economic plans for the future. As a trading nation, Canada must also concern itself with issues affecting international stability, such as the impact on developing nations of a disturbance in the world food system.

Dr. Hare also addressed the acid rain issue in his paper. In particular, he noted that the debate over the need for remedial action will go unresolved until acid rain is given greater political priority. The complexity of the problem explains why there are no immediate solutions, he said. Resolving the issue, for example, requires the co-operation of the United States, which produces the bulk of acid-causing pollutants and thus would have to bear much of the cost of reparation.

Conflicting evidence also exists as to the causes and effects of acid rain. Despite the need for more research, however, sufficient evidence now exists to warrant launching "effective measures of control," Dr. Hare concluded. What would help in this respect, he said, is a broader perspective on acid rain problems as one component of a pollution package threatening the environment in eastern Canada.

Dealing with the consequences of climatic change involves making the issue "a more central part of our long-range thinking," said discussant Joseph Cannon, a lawyer in Washington who specializes in environmental matters. Public attention will probably be gripped by the consequences of climatic change, putting pressure on policy makers to develop appropriate responses.

At the same time, caution must be exercised to avoid a polarization of views among industry, environmentalists, and the public. Each group has sufficient power to prevent the other from pushing its agenda forward, Cannon explained, in response to a question during the floor discussion.

Discussant Konrad von Moltke of Dartmouth College in New Hampshire maintained that the acid rain issue has to be resolved before attention is focused on climatic problems. Consequently, it is "urgent to attach a fair price to the disposal of wastes into the atmosphere," he said, suggesting an emissions tax as one approach. Regulations to limit the pollutants caused by acid rain are also needed, although agreement between states and/or countries will be hard to achieve with respect to the optimum level of reduction. For that reason, solutions to the acid rain problem will remain imperfect, Von Moltke concluded. Similarly, it is "extremely difficult to fashion international policy responses" to deal with the effects of climatic change, he added.

Several participants suggested developing policies to discourage fossil-fuel consumption and other processes that contribute to the greenhouse effect. While the industrialized world could probably find alternatives, many developing nations require high levels of fossil-fuel consumption to maintain economic growth, Hare maintained.

In response to another question, he said the effects of climatic change on the agriculture of the Soviet Union will "increase the vulnerability of an already highly vulnerable system." China, on the other hand, may benefit from the changes taking place, he added.


Probe Post

Agriculture will be affected by climatic changes

The costs and benefits of pollution control

Environmental legislation is sometimes thought (especially in the United States) to impose too costly a burden on the economy.

So new applications of cost/benefit analysis are attempting to measure the economic impact of pollution control measures. But problems arise because

of a lack of information that would enable the market value of the benefits of pollution control to be determined. On the cost side, similar difficulties prevail. How to deal with the uneven distribution of health risks is another troubling concern (for example, residents of one region may suffer ill health as the result of pollution produced in another locality). Then there is the question of whether the rights of future generations should be considered, given that they are likely to be affected by any environmental policy decisions.

Despite these obstacles, recent work has yielded "a substantial step forward" in the development of methods to estimate the benefits of pollution control, said Allen V. Kneese, senior fellow at Resources for the Future Inc., of Washington, D.C.

In particular, a technique known as "contingent valuation" copes with the problem of insufficient market information by surveying the public as to its willingness to pay for specific pollution control measures. This method was used recently in a national study measuring the benefits of water quality improvements in the United States.

The results of that study, in one instance, suggest that people may be willing to pay for improved water quality even if they don't benefit directly – an attitude that may stem from a feeling of national pride in having clean water, Kneese suggested. "Establishing these values in an accurate and complete manner is still a frontier area in benefits research," he said.

By sounding out the public on a hypothetical situation rather than measuring its past behaviour, as other survey methods do, the contingent-valuation method can monitor the public's appetite for pollution control. But the accuracy of this approach will remain in question until more sophisticated survey techniques are developed, Kneese concluded. At the moment, measuring the benefits of pollution control "involves making large inferences from limited information," he added.

To help compensate for that uncertainty, discussant John Swaigen of the Ontario Ministry of the Environment argued for tighter pollution control legislation and more education for industry. He observed that a pollution tax on industries emitting wastes would be effective only if accompanied by stiffer penalties such as imprisonment. More generally, corporate law in Canada needs significant reform, he added, and more resources directed to enforcement.

Discussant Elizabeth Wilman of the University of Calgary suggested improving the contingent-valuation method by comparing its findings with actual behaviour (where possible) and by using larger survey samples to improve the reliability of results. As well, survey questions should be posed in the context of other major environmental problems so that the responses regarding willingness to pay would be tempered by other concerns and thus be more realistic.

Wilman also stressed the need for stricter pollution controls, especially when the possibility of environmental damage is potentially large but difficult to measure. Though this would impose additional costs on society, such expenditures "may in the long run be less costly than the alternative," she added.

During the floor discussion, Kneese argued that pollution control taxes would be a "powerful incentive" for industries to reduce waste emissions. One participant observed that the additional costs to industry would be borne by consumers in the form of higher product prices.

Kneese also pointed out that many of the benefits of pollution control cannot be measured because they do not involve market interaction. Overall, politicians would probably grant more weight to the results of measurement techniques if there were "a consensus of methods" to standardize their use, concluded another participant.

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Pollution control has costs and benefits

Into the future

Consensus is emerging on a new global agenda of environmental concerns, as well as some fundamental changes in the approach used to address them.

The new list of world-scale problems, according to James Gustave Speth, president of the Washington-based World Resources Institute, includes: the loss of crop and grazing land; the depletion of tropical forests; the mass extinction of species; the effects of a complex mix of air pollutants and hazardous substances; climatic changes; rapid population growth in the developing world; and the mismanagement of energy, water, and various food resources.

The fact that these problems are getting more and more international attention is a departure from the almost exclusive focus on local issues in the 1970s, Speth noted. And unlike the adversarial conditions of the environmental movement back then, these new problems invite co-operation.

That's because of the growing recognition of the importance of environmental conservation to economic

growth, particularly in the developing world, Speth said. Also, interest is shifting away from traditional pollution control to the broader concept of resource management.

In the industrialized world, major environmental problems stem primarily from the careless and excessive use of certain technologies and resources; in the developing world, from excessive poverty and population growth. Their cumulative impact is more serious for the developing world, but the industrialized nations – having more wealth, technology, and a greater ability to exercise international leadership – are in a better position to act, Speth argued.

In fact, action on their part is vital, he said, because of the importance of Third World prospects to global economic performance. Neglect of Third World problems could also lead to hostile economic retaliation – the cancellation of foreign debt repayments, for example, as well as nationalization, the closing of markets, and so on.

Consequently, international security is at stake as well. Environmental degradation and resource depletion have already had a significant impact on the foreign policy interests of the industrialized world. Speth singled out the military conflict in El Salvador as one example, citing a recent report that attributes the unrest there as much to environmental as political causes.

On the whole, resource depletion and environmental degradation create significant costs for major sectors of the economy, Speth continued. A recent survey in the United States, for example, shows that losses from ozone damage to four crops – wheat, corn, soybean, and peanut – amount to as much as $3 billion a year.

Speth suggested that it's time to move beyond theoretical debate to a search for practical solutions. As an example, he referred to the approach taken by a group of multinational business executives, who last year proposed specific steps to alleviate environmental and resource stresses in Third World countries.

Discussant Jim Bruce of Environment Canada suggested that research be done on the types of institutions needed to make environmental concerns a part of economic decision-making, as well as on a better accounting system to keep track of the environment in a way that "makes sense to politicians." He also suggested that the Economic Council study the effects of climatic change in different parts of Canada in order to provide background information for the trade talks with the United States.

Discussant Derrick Sewell of the University of Victoria agreed that new policy arrangements are needed to integrate the economy and the environment, possibly including the establishment of an environmental council. Initially, however, "a much more enlightened approach" to raising public awareness of environmental issues must be developed, he said. In this respect, Canada is already playing a leading role in the United Nations and through projects supported by the Canadian International Development Agency (CIDA) in Third World countries.

The floor discussion centred on the need to integrate the economy and the environment, not only in order to solve pollution problems but also to reinforce sustainable economic growth. A division of thinking on these concerns arises partly, said one participant, because environmentalists too often look at the costs of economic development without considering the benefits. At the same time, the economy should be seen as "functioning within the environment," said another participant. Another observed that public consultation "from the bottom up" would foster widespread understanding of environmental problems and thus more support for tackling them.

To encourage pollution control, another participant suggested that the Economic Council look at ways of charging industry for the costs to the environment of emitting wastes and at methods of distributing the benefits of pollution control equitably. To aid in economic planning, the Council might consider studying the anticipated effects of environmental change by sector, he added.

As federal Environment Minister Tom McMillan observed, an underlying theme of the Colloquium was that "economics and environment separated from each other is economics separated from reality." In a luncheon speech, McMillan noted that industry's view of the economy and the environment as "two solitudes" has had dire consequences, as illustrated, for example, by the recent pollution disasters in Ontario's St. Clair River and in Bhopal, India. "We need clean air, pure water and healthy soil...to make a living for ourselves. It's that simple," he added.

Ontario's Environment Minister Jim Bradley touched on another prevailing theme when he spoke of the challenge to economists and environmentalists of measuring the effects of environmental policies on the economy. Too often, in his view, economics is defined in terms of narrow financial accounting, which disregards such environmental costs as damage to human health, the loss of business in one industry because of pollution from another, and so on. These costs must be taken into account, he concluded, for "only then will the real relationship between environmental health and prosperity become clear."

Probe Post

Ozone damage to this crop costs the economy billions of dollars

Technical progress helps insurance companies

Thanks to their technical progress, Canadian life insurance companies recorded steady productivity growth over a long period. But their performance would have been even better had the industry been operating at peak efficiency, says a recent Council paper.

Economists Michael Daly and Someshwar Rao of the Economic Council, and Randall Geehan of Carleton University – in work carried out for the Council's research on productivity – found that productivity in life insurance firms grew at an average of almost 2 per cent between 1962 and 1977. Over the final four years of that period, when productivity growth was faltering elsewhere in the economy, it actually accelerated slightly (to 2.4 per cent) in that industry.

Productivity in services

The authors note that most studies of productivity have concentrated on manufacturing, which accounts for about 20 per cent of real domestic product, rather than on the service sector, which accounts for over 60 per cent. That focus was largely unavoidable, they observed, because of the difficulties involved in measuring real output in service industries. Recently, however, economists have taken a fairly successful stab at overcoming this measurement problem.

Daly, Rao, and Geehan were able to draw on some of this recent research in order to devise a way of measuring total factor productivity (TFP) for the life insurance industry. (TFP is a comprehensive measure of productivity. Put simply, it measures the increases in output that exceed the increase in the combined individual inputs – labour, capital, materials, energy, and so on – engaged in the production process.) Using that measurement, the authors then compared data from 31 life insurance firms in order to determine the main sources of productivity growth between 1961 and 1977.

Use of the new measurement revealed that TFP was the major cause of growth in output for all the firms analysed, particularly between 1974 and 1977, when it accounted for 77 per cent of increased production. It also showed that productivity growth picked up slightly after 1973, in contrast to the trend in most other sectors, and it indicated that TFP growth in this particular service industry compares favourably with that in many other areas of the economy, including manufacturing.

Sources of growth

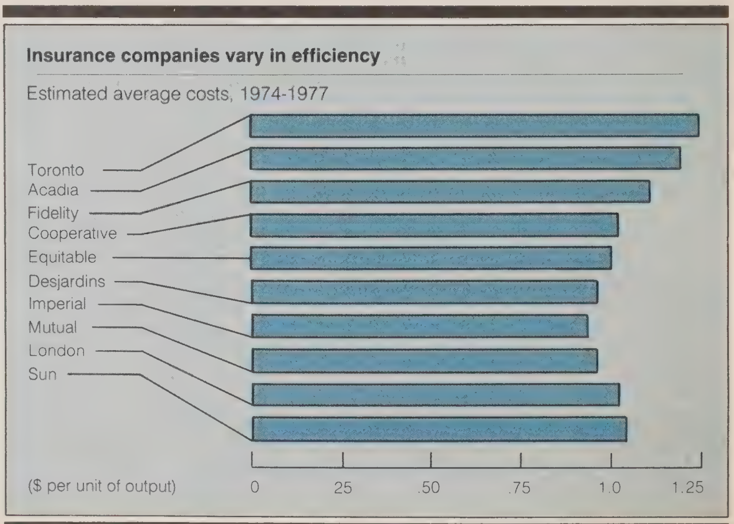
Technical progress accounted for the lion's share of productivity growth, the authors found. While all the firms made increasing use of new technology over the period, the rate of adoption was fastest in the largest ones – not surprisingly, the authors note, since the cost of innovation is quite high, especially at the outset.

The three economists also discovered, however, that the biggest firms were not the most efficient. On the contrary, economies of scale (which take place when unit costs fall as output rises) occurred in medium-sized companies, while in the ten largest, production costs ran higher than optimum. Since these large firms account for 85 per cent of the industry's output, their "scale diseconomies" affected overall efficiency – to the extent that a 10 per cent increase in the industry's output results in approximately a 10.5 per cent increase in total costs.

Taking into account both the question of scale economies and the fact that technical progress is faster in larger firms, the authors determined the ideal size for a Canadian insurance company by examining predicted average costs. The accompanying chart shows that between 1974 and 1977 these costs were lowest – and thus production most efficient – at *Imperial*, where real annual output was $67 million (in 1983 dollars).

The chart also shows that costs varied enormously and were highest for the largest and the smallest firms; thus the top three life insurance companies are probably too big, while the 13 smallest are too small, the authors say. The fact that so many small high-cost, high-price insurers were able to operate may have been due in part to buyer ignorance. As well, it could stem from a decision on the part of the larger firms to set prices high enough to bring them excess profits, while ensuring the small firms the bare minimum necessary for survival.

"Productivity, scale economies and technical progress in the Canadian life insurance industry," by Michael J. Daly, Randall Geehan, and P. Someshwar Rao. Discussion Paper No. 271.



Women shun blue-collar training

If their choice of training programs is anything to go by, women are steering away from the skilled blue-collar occupations.

Instead, they are opting for instruction in the clerical and health fields, says economics consultant Daniel Boothby, in research carried out for the Council's study on the role of women in the economy. This training preference mirrors the actual situation in the labour market, where clerical and health jobs are largely held by women. Higher pay and a better chance of promotion in those occupations probably explain why women prefer them to blue-collar jobs, Boothby observes.

The author focuses on the participation of women (particularly those rejoining the labour force after several years' absence) in "institutional" or classroom-style training programs. This format, he notes, attracts many more female candidates than the alternative options – apprenticeship training, where women trainees are virtually nonexistent, or industrial (employer-run) training, where they are under-represented.

Boothby uses data from Employment and Immigration Canada (EIC) files to track the experience of three types of institutional trainees – men and women already in the labour force, and female re-entrants. That exercise reveals that male and female trainees have very different preferences when it comes to training courses. Almost 60 per cent of the women enrolling in "skill" (job-specific) programs chose to train in clerical occupations (compared with 3 per cent of the male skill trainees) and about 10 per cent selected health occupations (mainly nursing). In contrast, roughly 70 per cent of men in this category picked blue-collar trades, such as machining, construction, and fabricating, assembling, and repairing. Very few women train for these jobs, except in the last category as sewing machine operators. Only the service occupations attracted a significant number of both sexes.

Boothby also found that women outnumber men in general training programs (such as education-equivalency courses) probably because they are more interested in acquiring the requisite schooling for clerical and health occupations. In contrast, men tend to train for jobs with lower educational requirements.

Generally speaking, both sexes opt for further instruction in the occupations where they last worked, the author says. That is particularly the case for nursing and clerical work in the case of women and for skilled blue-collar jobs (such as machining) in the case of men. But Boothby also found that people will train for new occupations under certain circumstances. His analysis indicates that women are more inclined to make a career switch if they are young, have been out of the work force for some time, and particularly if they perceive greater opportunities in a new field. Evidence suggests that they are most likely to transfer to clerical or health occupations.

These findings raise the question of why women do not train in skilled blue-collar occupations, Boothby says. In his view, there are several reasons for their reluctance, which also explain why women and men work in different occupations in the labour force. First of all, women tend to earn more in clerical jobs than in many blue-collar trades (the exceptions being electrical and wire communications, excavating and paving, and mechanics and repairing). Furthermore, they have a greater chance of acquiring supervisory positions in that area than in male-dominated occupations. In addition, Boothby says, family responsibilities may dissuade women from entering occupations that require a large investment in on-the-job training; and most blue-collar trades fall in that category. Too, they may, with some justification, be sceptical about their chances of finding work in male-dominated areas. And, finally, they may regard blue-collar jobs as undesirable or unsuitable.

Encouraging diversification

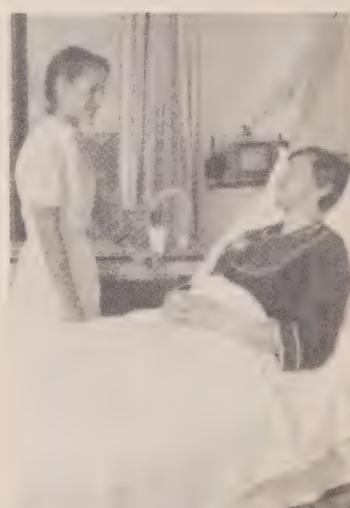
Nevertheless, there are good reasons for encouraging women to train for blue-collar jobs, Boothby maintains. Their recruitment would bring about greater occupational diversification in the work force and would also alleviate the current shortage of skilled workers in many blue-collar occupations.

As a first step towards this goal, the author recommends that EIC establish a task force to investigate possible discriminatory practices in training programs, particularly with respect to the selection process for industrial programs. While there is no direct evidence of discrimination, "some suspicion persists on this score," in Boothby's opinion, since the vast majority of women trainees prepare for predominantly female occupations.

As well, he advocates EIC pilot programs to train women in highly skilled, blue-collar occupations where there is a strong demand for qualified workers. The EIC should actively search for employers who are willing to carry out this training in return for subsidies, he says.

Finally, Boothby suggests increasing dependant allowances for trainees in institutional training programs, to the point where they reflect the actual cost of providing child care.

Women Re-entering the Labour Force and Training Programs: Evidence from Canada, by Daniel Boothby. (EC22-129/1985 E; $5.95 in Canada, $7.15 elsewhere).



Courtesy of the Ottawa General Hospital

Women opt for training as nurses

Saskatchewan's uranium industry

The Saskatchewan government is doing a pretty good job of taxing its profitable uranium industry. Even so, provincial residents may not benefit as much as they could, says a recent Council paper.

In research carried out for the Economic Council's report on western economic growth (*Au Courant*, vol. 5, no. 2), University of British Columbia professor Harry Campbell concludes that Saskatchewan's uranium industry is thriving and will likely increase its contribution to provincial growth and employment in the future. In fact, this industry could supplant oil as the province's most important resource by the end of the century, in his opinion. So the economic impact of provincial tax and expenditure policies with regard to uranium merits close attention.

The author notes that provincial governments usually justify taxing their natural resources on two counts: first, to provide competent resource management while ensuring that provincial citizens receive a fair share of the "rent" (or excess profits) from an exhaustible resource (the "equity" argument); and, second, to avert environmental damage while utilizing market power effectively (the "efficiency" argument). Campbell applies this theory to the specific case of the Saskatchewan uranium industry to see whether provincial tax and expenditure policies are both efficient and effective.

Tax policies

To evaluate the impact of provincial taxes on the uranium industry itself, Campbell looks at a successful mine in northern Saskatchewan (the Key Lake mine). He finds that the provincial tax system (a combination of basic and graduated royalties) works reasonably well, in that it allows the government to collect a sizeable share – somewhere between 45 and 65 per cent – of the rent, without unduly penalizing the mining company. While taxation slows the rate of mineral extraction, Campbell finds that producers forgo no more than 58 million dollars' worth of output, or 3 per cent of the net present value of the resource. A jump in the inflation rate would provide the province with an even larger slice of the revenue pie without imposing further costs on producers. In addition, there are some benefits to slower production, the author claims. It is better for the environment, for one thing. As well, it is good for the local economy, since it means that people and businesses in the area are occupied for longer periods with mine-related activities.

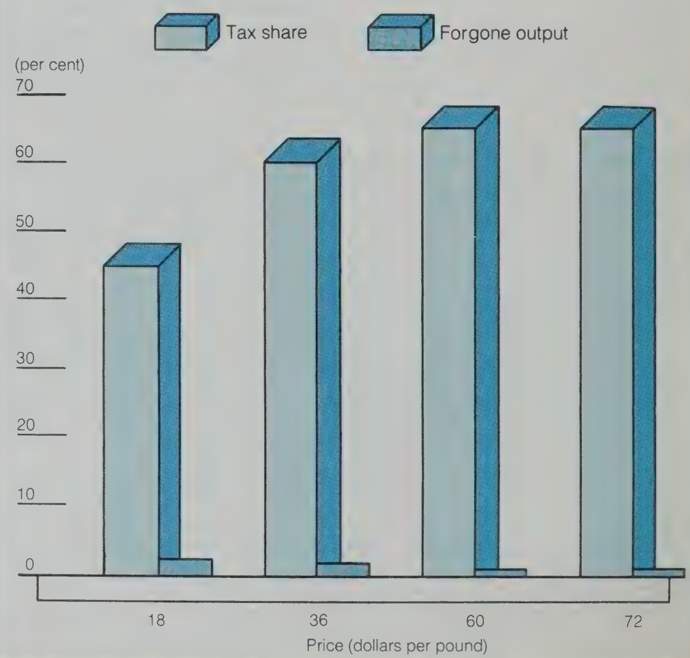
Expenditure policies

The revenues acquired through taxation are passed on to provincial citizens in the form of lower taxes and more or cheaper public goods and services. In addition, a portion is invested (via a Heritage Fund) for future needs. Unfortunately, this policy to benefit the people of Saskatchewan may backfire, Campbell says. One of the major consequences of a resource boom is a population increase in the affected province, as outsiders seek to share in the new prosperity. In Campbell's view, their arrival could result in more competition in the labour market (and hence lower wages than might otherwise be paid), as well as smaller per-capita income gains from the resource boom. This may occur in Saskatchewan, the author suggests, and if so, residents would be adversely affected. Furthermore, he notes, the current government policy prohibiting the investment of resource revenues outside the province means that at least some of the funds are earning less than they could.

"Exhaustible resources and economic growth: The case of uranium mining in Saskatchewan," by Harry F. Campbell. Discussion Paper No. 270.

How provincial taxes affect Saskatchewan's uranium industry

(under various price assumptions and assuming zero inflation)



Sizing up a crown corp.

The jury is out on whether Ontario's Urban Transit Development Corporation has been a worthwhile enterprise.

But Carleton University economics professor Christopher Maule says it's a good example of how a government-created organization "gains a life and will of its own and becomes part of the political process." He looked at the UTDC as an example of a risk-taking government enterprise for a Council project in that area (*Au Courant*, vol. 4, no. 3). The Council asked Maule to focus his analysis on four issues: the reason for the creation of a government enterprise; the evolution of the corporation; accountability procedures; and the likelihood of "privatization."

The UTDC was created by the Ontario government in 1973, in keeping with its new policy of encouraging the development of an intermediate-capacity rapid transit system. Its general objectives were to establish and promote research and development (R&D) on transportation systems, to oversee the integration of new developments with existing systems, and to ensure competition in the sale of new equipment to Ontario municipalities.

At its inception, the Corporation had 40 employees, and its financial statement at the end of its first year of operation showed assets of $11.3 million, sales of $590,000, and a net loss of $928,000. The picture ten years later was strikingly different. In just a decade, the UTDC had mushroomed into an enterprise of over 1,000 employees, with assets of $156 million, sales of $86 million, and net earnings of $1.6 million in 1983. Today, Maule observes, its mandate has been broadened to the point where it is "capable of providing a turnkey mass transit system plus operation and maintenance services if the customer requires it."

> **Once a government decides to create a G.E., the organization gains a life and will of its own, and becomes part of the political process.**

Why a government enterprise?

Maule found no evidence that the Ontario government had considered any other alternatives to the UTDC at the time of its creation. It seems to have chosen this policy option for several reasons, he says, but chiefly because of the conviction that since most projects would be farmed out to private-sector firms, an agency within government would be required to handle the inevitably complex contract arrangements. That argument has since lost much of its persuasiveness, in the author's view, insofar as the present-day activities of the UTDC are such that contracting out is not very difficult.

Another reason advanced for choosing a government enterprise was that it could bypass effectively the open tendering system in order to direct industrial benefits to Ontario firms. Maule cites a number of examples of this practice – such as the untendered contracts for subways and streetcars for the Toronto Transit Commission. In his view, the "widespread use of such policies will fragment the Canadian market and undermine the ability of Canadian-based firms to realize economies of scale."

Evolution of the corporation

The rapid growth of the UTDC to a size far beyond that envisaged by its creators can be ascribed to "the way in which the self-interest of the politicians, transportation bureaucrats, and corporate management coincided," Maule says. The embarrassing failure of the agency's first major project (a contract with a West German firm to develop magnetic-levitation transportation technology) united these groups in a desire to avoid any further setbacks. This harmony of interests, Maule concludes, "...is probably common to all government enterprises and helps explain why, once created, a GE takes on a life of its own and is difficult to reverse or terminate."

> **The evolution of UTDC . . . is explained by the way in which the self-interest of politicians, transportation bureaucrats and corporate management coincided . . .**

Accountability

In some respects the Crown agency has been obliged to provide more detailed accounting of its activities than a private-sector firm, Maule says, pointing to a variety of formal and informal requirements to that effect (such as the legislative process, reports to bureaucracy, audits, and so on). He notes, however, that the informal mechanisms (such as journalistic investigations) tend to focus attention on minor spending items rather than on more important matters, such as the choice of technology to be developed and exploited.

Privatization

The notion of transforming the UTDC into a private company has attracted a good deal of interest in recent years. But that plan might be difficult to carry out for a number of reasons, Maule says. In particular, he points to the difficulties involved both in evaluating a corporation that fulfills social as well as private objectives, and in selecting a buyer, given the probable government reluctance to sell to an out-of-province firm.

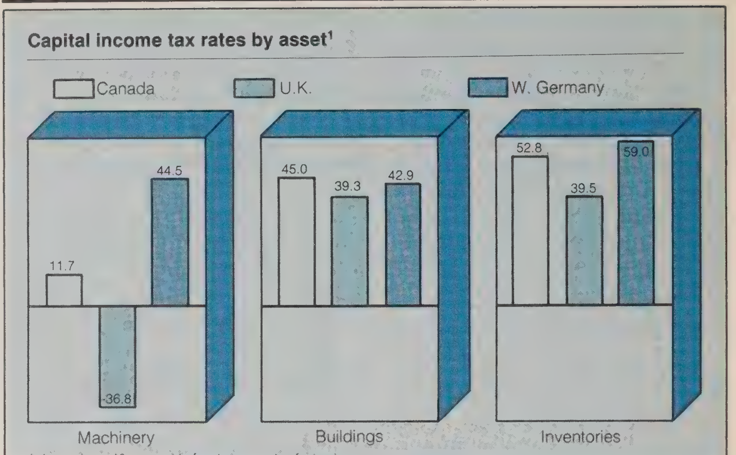
"The Urban Transportation Development Corporation: A case study in government enterprise," by Christopher J. Maule, Discussion Paper No. 281.

Capital income tax rates vary greatly

Canadian businesses, take note! The biggest tax breaks go to manufacturing companies, especially if their investments are debt-financed or in machinery. The tax rate is much higher for firms in the commercial sector and for those with investments financed by equity or in buildings and inventories.

Furthermore, householders pay proportionately much more to the tax collector if they invest directly than if they invest in institutions handling pension funds or in insurance companies – which, in fact, receive tax subsidies.

That kind of uneven tax treatment is not only unfair but also damaging to Canada's productivity, say Michael Daly, Jack Jung, Pierre Mercier, and Thomas Schweitzer in two papers written for the Council's current project on the taxation of capital income (*Au Courant*, vol. 5, no. 1). They add, however, that Canada's capital income tax system compares quite favourably with that in four other industrialized countries.

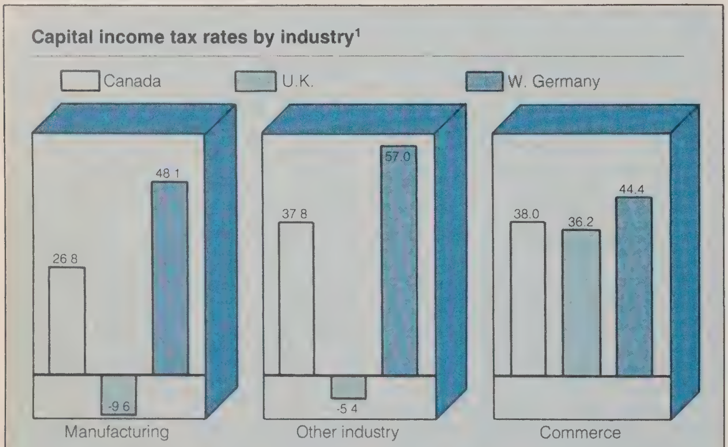


1. (assuming a 10 per cent before-tax real rate of return)

Reason for research

In light of some new information on the taxation of income from capital, the four Council economists decided to look at the situation in Canada, to see how this country stacks up against other industrialized nations. A recent study of tax systems in four western countries – the United States, the United Kingdom, West Germany, and Sweden – discovered large variations in their marginal income tax rates (that is, the rates on income from new investments), depending on the type of capital, the method of finance, the tax status of the investor supplying the funds, and the industry where the investment was made. The study also suggested that these inconsistencies, rather than the actual size of the tax bite itself, impede economic growth. According to the study's findings, growth is greatest in West Germany, where capital taxes are highest, on average, but also the most uniform. In contrast, growth is slowest in the United Kingdom, where the variation in tax rates is the widest.

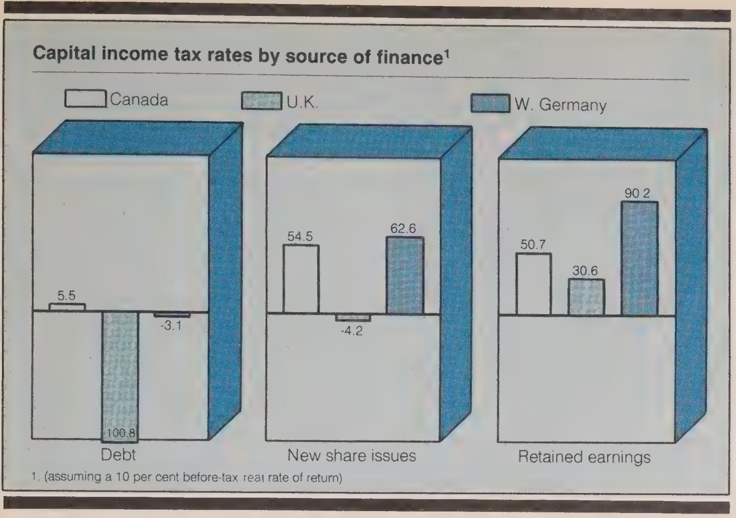
A look at the capital income tax system in Canada reveals that it is characterized by similar inconsistencies, which are discussed below and illustrated in the accompanying charts.



1. (assuming a 10 per cent before-tax real rate of return)

Corporate taxes

Compared with personal taxes, which account for 30 per cent of all tax revenues, corporate taxes contribute very little – 6.5 per cent in 1982, for example. Nonetheless, these taxes "bear primary responsibility for the variation in effective marginal tax rates among industries," as the result of an inconsistent treatment of assets, forms of finance, and even industries. For example, certain accelerated depreciation allowances enable Canadian firms to write off investments in machinery at an early stage. Consequently, as Chart A indicates, machinery is taxed much more lightly than buildings – which have a longer tax life and, furthermore, are affected by property taxes – or inventories, where the inventory allowance does not always compensate for inflation.



Another culprit is the investment tax credit, which only applies to certain types of new investment at rates that vary by region. A further distortion is introduced by the tax breaks given to Canadian manufacturing and processing industries, which are not granted to other industries and commercial enterprises (see Chart B).

Taxation rates differ according to the kind of financing used as well, as Chart C demonstrates. The tax deduction allowed on interest payments made by corporations, along with the non-deductibility of dividend payments, means that investments financed by debt (corporate bonds, for example) are taxed at a considerably lower rate than those financed by new share issues or retained earnings.

Personal taxes

Here, too, the tax treatment of capital income varies greatly, depending on the source of the investment funds. There are three types of investor, the authors explain: the householder, through savings in banks, stocks and bonds, mutual funds, and so on; tax-exempt institutions holding pension funds or RRSPs, which represent the indirect savings of individuals, as well as the pension business of life insurance companies; and life insurance companies, representing household savings in the form of life insurance policies. As Chart D shows, capital income going to householders is taxed far and away the most heavily. By definition, tax-exempt institutions pay no tax, while life insurance companies receive particularly favourable treatment through provisions allowing them to deduct the income from equity-financed, as well as debt-financed, investments (provided it is used to fund future payments to policyholders).

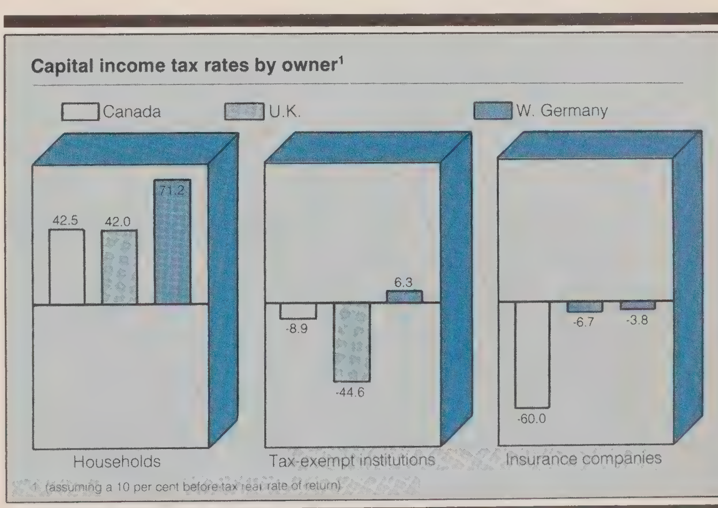
This haphazard tax treatment hurts productivity growth and national output by encouraging investment in activities with the highest after-tax returns rather than in the most productive ones with the highest rate of return before taxes. According to the authors' estimates, GNP growth in 1984 could have been as much as 2 per cent higher under a more uniform system – that is, one with less variation in effective marginal tax rates on income from different investments. In current-dollar terms, that amounts to about $8 billion in forgone income.

But tax inconsistencies were as great or greater in the United States, the United Kingdom, Sweden, and West Germany, the authors found. Canada vies with West Germany for the system with the least variation in tax rates, and it has the highest growth rate, their analysis shows. The United States and Sweden are in the middle range, while the United Kingdom has the most irregular system.

In the authors' view, many of the proposals contained in a Discussion Paper tabled with the 1985 Federal Budget could, if implemented, reduce the variations in Canada's capital tax rate. Recommended changes include cuts in the corporate tax rate, a reduction in depreciation allowances, and elimination of the investment tax credit, except for scientific research. If these measures were put into effect, GNP growth would be at least 1 per cent higher, they conclude.

"The taxation of capital income in Canada: A comparison with Sweden, the U.K., the U.S.A., and West Germany," by Michael Daly, Jack Jung, Pierre Mercier, and Thomas Schweitzer. Discussion Paper No. 289.

"A comparison of effective marginal tax rates in Canadian manufacturing," by Michael Daly, Jack Jung, Pierre Mercier, and Thomas Schweitzer. Discussion Paper No. 293.



S·P·E·A·K·I·N·G · O·U·T

Last summer Judith Maxwell was appointed chairman of the Economic Council. A graduate of Dalhousie University, who also studied at the London School of Economics, Mrs. Maxwell spent six years with the Financial Times, as economics writer and member of the Editorial Board, prior to her appointment as director of policy studies at the C. D. Howe Institute. Subsequently she worked as a consultant to Esso Europe Inc. and, most recently, for the Coopers and Lybrand Consulting Group in Montreal.

In the following interview with *Au Courant*, Judith Maxwell discusses her views on how the Council can best fulfil its mandate to provide relevant and timely information on key economic issues.

Au Courant: How do you envision the role of the ECC?

Maxwell: The Council has three unique qualities. It's independent; it focuses on medium-term economic research; and it issues consensus reports on that research. The role of the Council has evolved over the years in response to a changing environment. I think its primary role in the next five to ten years will be to contribute to the formation of a national consensus on economic policy.

I also think this will be a very important role for two reasons. First, Canada faces some tough choices over the next decade. The structure of the economy is changing rapidly in response to an array of technological, demographic, and international trends. We have little or no control over these trends, and it is difficult to predict where they will take us. Yet structural change is disrupting people's lives and confronting business with a turbulent marketplace. So the Council has a major contribution to make in enhancing our understanding of structural change, identifying the new trends, and projecting their potential impact.

But I think we can go beyond that, which brings me to the second reason. During the past twenty years, interest groups in Canada have increased their visibility and their ability to articulate

Judith Maxwell

their views. This is valuable in itself, but it makes consensus more difficult to achieve. Governments and the public are subjected to a barrage of well-prepared statements that reflect the specific viewpoint of an interest group (an industry, a region, a consumer group, and so forth). But we have no mechanism for sorting out these viewpoints and identifying the common ground. Here, the Council has a role to play in issuing consensus reports that offer policy advice reflecting the broad perspective of Council members. These reports will identify the common ground among many interest groups. But perhaps just as important will be our capacity to articulate the framework for policy and to identify options.

Because we are independent and because we can combine sound research with the wide experience of Council members, we can provide the benchmarks or reference points for a better understanding of economic issues.

> ***The Council's primary role in the next five to ten years will be to contribute to the formation of a national consensus on economic policy.***

Au Courant: Why was the Economic Council created in the first place?

Maxwell: Well, the Council was created in the early 1960s, at a time when the quantity and the quality of economic research in the country was quite different from what it is now. Then, there were relatively few private research institutions, while federal and provincial government departments did not have the big research teams that were subsequently put together. In fact, someone I talked to recently said that in the early 1960s Ottawa had only 1½ economic research departments: one at the Bank of Canada and another half in Finance. I think that both Prime Minister Pearson and the Council's first chairman, John Deutsch, observed this lack of critical mass in economic research. They also felt strongly that there was a need for a consensus type of organization to bring together the viewpoints of many different groups in the country.

Au Courant: Has the Council changed its function over the past 20 years?

Maxwell: Both the Council and the marketplace have changed quite dramatically. For one thing, private research organizations and interest groups have greatly increased their capacity to speak on economic issues. Also, the government departments here in Ottawa and in the provinces have developed really substantial research teams. As federal and provincial departments became more and more capable of serving their own research needs, the Council moved into deeper, more technical research areas and into more comprehensive studies. But the impact of these government policy research groups probably has reached its peak. Now, in the environment of budget restraint, there have been significant cutbacks in the economic research capacity of individual departments. In that sense, the market is evolving, yet again, in a

way that reinforces the need for the Council.

Au Courant: Given these changes, should the Council now be developing new priorities?

Maxwell: Well, I feel that the Council has to go through a major evolution, in that it now has to improve its ability to communicate its research, in order to reach a broader audience. In my view, the Council has been hiding its light under a bushel, by doing excellent research but not communicating it well. There are quite a number of changes that I am proposing to make over the next year or two, which I hope will help us to communicate better. We also have to make better use of the experience of our Council members to give our recommendations greater sensitivity to political and social reality.

The Council should be providing a framework for public discussion, by describing issues and options and . . . by suggesting directions for policy.

Au Courant: Could you spell out some of those changes?

Maxwell: The first important change is that we are going to make Council reports shorter and more readable. We are still going to do the comprehensive and basic research we have done in the past, but we plan now to communicate it better to a wider audience. As I mentioned, I think technical research still has to be done and it should be published. But we must not let the technical work underlying our research make our reports too difficult for people to read. So we are proposing to divide major research projects into a series of small reports that will be made more accessible to a wide audience.

This new approach reflects the evolution in our concept of the market for Council reports. We hope to make a constructive contribution by speaking directly to policy makers, but our current sense of the Council is that it should be reaching a broader audience as well. The Council should be providing a framework for public discussion, by describing issues and options and, as far as possible, by suggesting directions for policy. To do this we are implementing changes in Council meetings in order to make greater use of input from Council members.

Au Courant: What contribution can these Council members (the "board of directors") make to Council reports?

Maxwell: Council members are chosen to ensure that we have good regional representation, as well as balanced representation from the various sectors of the Canadian economy. Each Council member comes to a meeting with the perspective of his or her own industry or sector, and region. So we feel there are often times when, in the consensus process, they bring quite a different perspective on an issue from the purely economic one. I think we can reach a broader audience if we make a more clear-cut distinction on a given issue between the harsh logic of economic research and the contribution of Council members, with their broad experience in the community at large. The idea is that in major reports we'll report the research and the logical conclusions of that research. Then, in a separate section of the same document, the Council will issue its statement, which may actually make recommendations on policy that are somewhat different from what the economic research says. If we get into situations where the Council's statement differs from the research findings, then it will be very important to spell out exactly the other perspectives that led us to record this difference.

If you look at a key structural issue – like the federal deficit, for example – it is quite clear that it has to be reduced gradually; otherwise, governments will eventually spend all their revenues on servicing the debt, with nothing left to finance basic public services. The really critical questions are: How fast and by what means can it be reduced? There you get into the question of public choice as much as that of basic economics. I think we have to help educate the public about the importance of these kinds of issues, and we have to give them a framework for addressing them.

Au Courant: Are there any particular subjects that you think the Council should look at over the next few years?

Maxwell: I think if you look at the key issues, some of the most important ones have to do with the process of adapting to structural change. The Council already has a number of very relevant projects in the early research stages, including one on social policy in a period of structural change. There are also the questions of labour-market adjustment and manufacturing-sector adjustment to possible reductions in tariff and nontariff barriers. Those are all areas where we are considering projects.

Education is another area that the Council may have to examine carefully, with the idea of mounting another research program (we did some work on this in the 1960s), since the quality of education in this country contributes enormously to our long-term economic performance. It is widely recognized nowadays that the quality of Canadian education is probably inadequate. At this point in the public debate the federal and provincial governments are arguing about who will pay for higher education rather than talking about the basic quality issue. That is an area where I hope we can put together a good research plan, perhaps sometime during the next year.

Au Courant: The Economic Council is an Ottawa-based organization. Does that mean that it deals only with matters of interest to the federal government?

Maxwell: No. The Council is funded by the federal government, but it is not part of the machinery of the federal government. It has worked very hard to establish itself as a national institution, with relevant advice to offer not only the federal government, but also provincial governments and the private sector. Certainly, a high priority of my first year as chairman will be to meet people in each of the provincial capitals.

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Economic Council of Canada
Volume 6, No. 4, 1986

The economic impact of falling oil prices

- A new project on Canada's financial institutions
- Canadians would benefit from a new tax system

PUBLICATIONS

Research Studies

Research studies are published by the Economic Council in both official languages. A list of titles is available on request. Each study clearly attributes the findings and conclusions to the individual author or authors rather than to the Council (ordering information below). One new title has been published since the last issue of *Au Courant*.

The Potential Supply of Crude Oil and Natural Gas Reserves in the Alberta Basin, by *Russell S. Uhler* (EC22-128/1986E; $7.95 in Canada, $9.55 elsewhere).

Discussion Papers

Discussion papers are typically of a technical nature and are intended for distribution in limited numbers to individuals who may have a particular interest in these or related fields of research. Of varying length and complexity, these papers are reproduced only in the language in which they are written. Each paper is the personal responsibility of the author or authors, and distribution under the auspices of the Council does not, of course, imply that the conclusions of the paper have been endorsed by the Council.

No. 295 "Crown corporations as instruments of public policy: A legal and institutional perspective," by *Elaine Kirsch*.

No. 296 "Newfoundland revisited," by *Lawrence Copithorne*.

No. 297 "Mergers and merger policy in the Canadian manufacturing sector: 1971-79," by *John R. Baldwin* and *Paul K. Gorecki*.

No. 298 "L'influence de la dette sur le coût des obligations à long terme : Le cas de quatre provinces canadiennes," by *Richard Carter* and *Henri Paul Rousseau*.

No. 299 "SOQUEM : Son mandat, ses contraintes et sa rentabilité," by *Jean-Thomas Bernard* and *Gérard Gaudet*.

Reprint

The following Council report has been reprinted and can be ordered in accordance with the information below:

Looking Outward: A New Trade Strategy for Canada (EC22-27/1975E; $8.95 in Canada, $10.75 elsewhere).

The Economic Council of Canada

The Economic Council of Canada is an independent advisory body established by an Act of Parliament in 1963, with broad terms of reference to study and report on a wide range of matters relating to economic development. The act requires the Council to carry out an annual review of the country's economic problems and prospects, and empowers it to conduct other studies on its own initiative or at the request of the Government, and to publish reports as it sees fit.

How to order

Research studies and Council reports are available across Canada from bookstores where government publications are sold. (A list is available from the Council on request.) These publications can also be ordered by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Canada, K1A 0S9. (Please be sure to include a cheque or money order made payable to the Receiver General for Canada.)

Discussion Papers, *Au Courant* and the *Annual Report* are available without charge from the Information Division, Economic Council of Canada, P.O. Box 527, Ottawa, Ontario, K1P 5V6.

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Volume 6, No. 4, 1986

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Contents

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The major reports featured in *Au Courant* reflect the viewpoint of the Economic Council.

Research studies, discussion papers, and other background papers are prepared for the use of the Council by members of its staff and others. The findings of these reports are the personal responsibility of the authors. Neither the original publication of these studies and papers, nor their condensation for the purposes of this magazine, should be taken to imply endorsement of their conclusions and recommendations by the members of the Economic Council.

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The games-playing aspect of tax reform

Tax reform involves games-playing among self-interested groups, with the result that the most logical or equitable solutions are often overlooked.

Or so says University of Toronto economics professor Douglas Hartle, in a paper written for the Council's study of the taxation of capital income (*Au Courant*, vol. 5, no. 1). In his view, "tax structure changes can be analysed as the outcome of existing sets of continuing games involving politicians, bureaucrats, special interest group leaders, and mass media journalists." All of these "players" are primarily guided by self-interest, be it re-election, or promotion, or image-enhancement, and all contribute to the decision-making process. This means that, in general, certain assumptions can be made about that process, Hartle says. For example: lobbyists will try to affect policy decisions to their own advantage; officials will gain in influence whenever policy issues are highly technical; politicians will block politically damaging reforms; and the electorate will remain uninformed, and therefore uninvolved, unless the media takes up the cause.

Using this general theory, Hartle proceeds to analyse six specific tax reform proposals, which are discussed below.

Estate taxes

The estate (or death) tax – which was imposed on an estate before its proceeds were distributed to the beneficiaries – was abolished in 1972 and replaced by a tax on the capital gains included in the tax return of the individual in the year of his or her death. Hartle cites a number of practical reasons for this change, while noting that media interest in, and public support for, the "social" purpose of the estate tax - to prevent rich families from creating dynasties – was virtually non-existent. On the other hand, the organized opposition – largely from construction and farming industry associations, whose members were adversely affected by the tax - was very strong.

Ontario property taxes

From 1967 to 1978, the Ontario government attempted to reform its system of property taxation by introducing market value assessment. This effort failed utterly, despite the fact that criticism of the prevailing inequitable system had been strident. Hartle ascribes this failure to a list of factors: the strong opposition of local politicians, who feared the wrath of those who lost by the reform; the general indifference of the electorate; and the precarious position of the minority provincial government of the time. "In retrospect," Hartle observes, "the surprising aspect of the Ontario government's attempt to reform the . . . tax was that it was tried at all. Where were the potential political benefits?"

. . . tax structure changes can be analysed as the outcome of existing sets of continuing games . . .

Personal vs. corporate taxes

The issue of whether corporate and personal income taxes should be integrated has long been a controversial one, Hartle says. The pro-segregation camp argues that the corporation is a separate legal entity and should be taxed as such, while supporters of integration contend that shares in undistributed corporate income should be attributed to shareholders, who would then be taxed on their combined personal and capital incomes.

Hartle reviews the developments in this ongoing debate, noting that full integration was rejected in the early 1970s. That decision, he contends, was taken primarily as a result of pressure exerted by special interest groups in corporations and industries, often with the support of provincial governments.

The indexation issue

Hartle sees the partial indexation of the personal income tax (1972-74) as "probably the most significant tax change put into effect in the post-1972 reform period." Opposition to the scheme was slight, since the only losers were governments, which forfeit revenues. But there were large hidden costs to this move, Hartle observes, primarily in terms of its adverse effect on the deficit. He speculates that this "political blunder" took place because of an attempt by the Department of Finance to regain its control over federal expenditures.

Capital gains and losses

The author discusses the "painful series of compromises" leading up to the implementation of the Indexed Security Investment Plan (ISIP) in 1983 (a plan to ensure that nominal capital gains caused by inflation did not result in tax increases). He observes that the demand for this reform came mainly from financial institutions; that its technical nature meant that the media was absent from the debate and that officials had a greater opportunity to exert influence; and that government manoeuvres leading up to this reform demonstrated "the political wisdom of doing as little as possible as late as possible with maximum consultation."

Manufacturer's sales tax

Hartle notes that there have been "seemingly endless" attempts to replace this indirect federal sales tax with a less arbitrary federal tax at the retail level. These efforts have failed, primarily because of opposition from federal politicans, Hartle says. They wished to avoid a retail tax because at that level it would not be hidden from the public, and because it would anger provincial politicians who, in the confusion, would likely be blamed for the tax. At the same time, the technical nature of this reform aroused no interest in the mass media, nor, therefore, in the electorate who would have benefited. "Reform of the MST is fraught with potentially heavy political costs with no likelihood of perceptible political benefits," Hartle concludes.

"Political economy of tax reform: Six case studies," by Douglas G. Hartle. Discussion Paper No. 290.

The benefits of a new tax system

As income tax time rolls around again, two Economic Council discussion papers should attract some attention.

Both find fault with our current personal tax system and recommend alternatives. In the first paper, Council economist Denis Gauthier finds that replacing the income tax with a consumption tax would boost Canadian living standards. In the second, economists Michael Daly of the Economic Council and Fadle Naqib of the University of Waterloo favour the implementation of a tax system that would incorporate some features of both the current personal tax system and a consumption tax system.

Need for change

Canada's prevailing income tax system is frequently criticized for its unfair treatment of savings. At present, individuals are taxed on their income initially and again on any income they subsequently receive from their savings (interest from savings accounts or dividends from investments in the stock market, for example). When comparing two people with the same lifetime income, this system favours the spendthrift. By penalizing saving, critics say, the system reduces investment and so restricts the amount of capital with which the labour force has to work. This lowers wage levels, future output levels, and the standard of living.

To eliminate the double taxation of savings, many tax analysts favour replacing the income tax with a consumption tax. Then income from savings deposited in "registered" accounts – such as RRSPs – would not be taxed until it was withdrawn. That way, people would be taxed on the basis of their consumption, or on what they take out of the economy, rather than on their savings and investment, or what they put into the economy.

Benefits of a new system

In the first paper, economist Denis Gauthier finds that, in comparison with their welfare under an income tax system, taxpayers would be marginally better off with a wage tax – and noticeably so with a consumption tax.

The Council researcher arrives at this conclusion by forecasting the performance of the economy under different personal tax systems. (His main results are illustrated in the accompanying chart.) The taxpayer's well-being under the current income tax system forms the basic assumption or "base case" for the model. This is then compared with three options: a wage tax; a consumption tax; and what the author calls an "optimal tax" – a theoretical system combining all three tax forms, which is included to give an idea of the best possible outcome.

Gauthier finds that if, as Council research now suggests, the tax on capital income is around 35 per cent, then individuals could see their living standards rise fractionally under a wage tax system and by about 7 per cent under a consumption tax system.

Another option

Despite the gains that would be possible with a consumption tax, however, such a system would present certain administrative difficulties in dealing with some forms of saving, such as investment in owner-occupied housing, for example. Under the current system, taxpayers are not allowed tax deductions on savings in this form; nor are they taxed on returns from that type of investment.

In their paper, Daly and Naqib describe the advantages of moving to a modified consumption tax system by combining tax-deductible savings in registered accounts (such as RRSPs) and non-tax-deductible savings in unregistered form (such as those affected by the current tax treatment of owner-occupied housing). The principal difference between their proposed system and the present one is that there would be no limit on contributions to registered savings plans such as RRSPs, and income from non-registered savings would not be taxed.

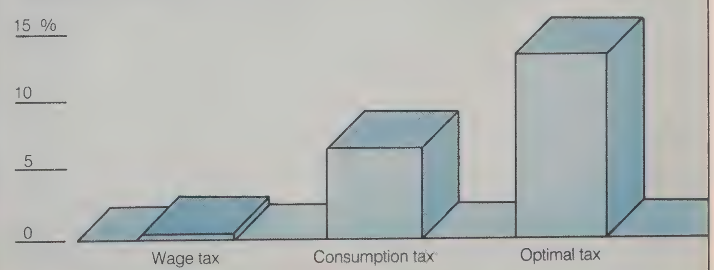
Under the current system, the better-off are expected to bear a bigger tax load than others. Consequently, the tax load fluctuates (sometimes dramatically), depending on changes in the incomes of taxpayers over their lifetime. One of the advantages of the system proposed by Daly and Naqib is that tax-deductible savings could be used as a form of do-it-yourself income averaging, enabling taxpayers to maintain their taxable incomes at more or less the same level throughout their lifetime. It would also permit students or unemployed workers to borrow money in the form of registered loans and pay taxes on the proceeds at a low marginal rate, later deducting the loan repayments from their higher employment income.

"Designing a nondistortionary personal tax system for Canada", by Michael Daly and Fadle Naqib. Discussion Paper No. 267.

"Savings and taxes in a life cycle growth model with age-earnings profile," by Denis Gauthier. Discussion Paper No. 288.

Consumption tax would boost living standards

Welfare gain as a percentage of lifetime income
(assuming capital income tax is 35 per cent in income tax base case)



Crown corps. should focus on public policy goals

Profit making shouldn't be the overriding goal of Crown corporations. Rather, their ambition should be to achieve well-defined public policy objectives as efficiently as possible.

At present, however, that's rarely the case, according to a paper by lawyer Elaine Kirsch, prepared for the Council's study of government enterprise (*Au Courant*, vol. 4, no. 3).

Kirsch points out that "Canadian Crown corporations are rarely created strictly to generate profits; rather, they are established to fulfil other policy objectives such as boosting employment or developing certain regions of the country." They are, in fact, "instruments of public policy . . . clothed in corporate trappings." As such, these enterprises face a legal and institutional environment endowing them with certain special characteristics not shared by private companies. Since these distinct features often translate into costs to the taxpayer, they are justifiable only if essential for achievement of policy goals, Kirsch contends.

To assess the effectiveness of public enterprise, the author defines the features or "costs" characterizing Crown corporations – both at the federal level and in several provinces – that would not be found in a representative private-sector corporation. She then surveys the objectives of public enterprise to determine whether these costs have been unavoidable. Finally, she suggests certain improvements.

Legal "costs"

The author enumerates the many legal privileges and immunities belonging to a Crown corporation by virtue of its close association with the Crown. For example, corporations that are accorded the status of "agents of the Crown" by and large are not bound by provincial and federal legislation except when they are mentioned specifically. Nor are most provincial corporations required to pay federal and provincial taxes - although most give "grants" to municipalities for services. (Federal commercial corporations, on the other hand, generally pay taxes everywhere.) In theory, public enterprise is not subject to criminal prosecution either, although the courts now tend to discriminate between the Crown and its agents. Yet another advantage comes from their entitlement, through their Crown status, to rank as a preferred creditor in bankruptcy proceedings.

> *Canadian corporations are rarely created strictly to generate profits; rather, they are established to fulfill other policy objectives . . .*

These and other advantages impose fairly significant costs on society, Kirsch claims.

Institutional "costs"

The performance of Crown corporations is inadequately monitored, primarily as a result of the institutional environment, Kirsch maintains. Whereas shareholders, directors, and company managers all act as effective monitors of private-sector corporations, they do not perform this role with the same incentives and expertise in public enterprise, where reporting relationships tend to be more "layered" and where fewer incentives prevail. For example, provincial and federal enterprises report to a minimum of eight "shareholders" – ranging from ministers of finance to auditors and civil servants – often with overlapping responsibilities and poor communication links. Also, boards of directors tend to be less effective in the public domain, since few include experts in the particular product market of the corporation. Finally, top management in Crown corporations have less incentive to do a good job, Kirsch contends: they are paid less than their private-sector counterparts, have less power and prestige, and often have to contend with tougher management problems.

In addition, the reporting techniques used to monitor corporate performance are far more complicated in public enterprise than in the private sector. Private companies report on their activities through regular contact between management and the Board and through the annual report to shareholders. In contrast, a staggering range of methods are employed in public enterprise, including budgets, quarterly reports, committee and Auditor General inquiries, and others. These impose costs in terms of coordination, duplication of effort, and waste, the author observes.

Public enterprise objectives

While private-sector firms are in business for one paramount reason – to make money – the same cannot be said of Crown corporations. Rather, they are created to meet policy objectives "in addition to, and indeed in opposition to, profits." These goals are rarely set down in a consistent manner. Instead, they are described in a corporation's empowering legislation, in corporate plans, or in government directives; more often, they are conveyed unofficially, usually through the Minister responsible. The most common rationale for public enterprise in Canada, Kirsch says, is national and regional development, and the unification of the country. Other objectives include maintaining employment, constraining a "natural" monopoly (such as telephone and power utilities), guaranteeing security of supply, stimulating competition, and monitoring government productivity.

A review of the costs described above suggests that most are not essential for the attainment of these goals, Kirsch attests. What's more, she concludes, none of the players in the public enterprise sector has any incentive to reduce these costs.

"Crown corporations as instruments of public policy: A legal and institutional perspective", by Elaine Kirsch. Discussion Paper No. 295.

What lies behind the tariff-setting process

As Canada considers a move to freer trade, a new Council paper should prove very informative. It says that industries still protected by the tariff structure are probably less competitive than those that aren't.

Indeed, tariffs (taxes) on imported manufactured goods sold in Canada exist largely to shelter those Canadian industries which do not have a competitive edge. Tariff levels have fallen primarily among industries that needed tariff protection the least.

But because the government actually chooses which industries to protect, the tariff-setting process has been influenced by political factors as well, including the impact of lobbying on government decision making, the benevolent nature of government – as demonstrated, for example, by its desire to protect jobs where adjustment problems are likely to be particularly severe – and its concern with getting re-elected. Economists John Baldwin of Queen's University and Paul Gorecki of the Economic Council break new ground in this paper by modeling and testing the tariff-setting process in much greater detail than hitherto.

Authors' approach

The authors look at the tariff structure and changes in tariff levels in 1966 and 1970 across some 108 manufacturing industries (matched against comparable industries in the United States). To find out which factors influence the tariff-setting process, they develop sets of variables that reflect the costs and benefits to industry of seeking tariff protection, and the government's willingness to grant it. For industry these costs include lobbying, while the benefits relate to reduced competition from foreign goods – now higher-priced – in the domestic marketplace. The government must not only consider these economic factors but also weigh the political trade-offs of supporting one group over another.

Results of process

What the authors find most striking about the results of this process is that industries under the protective tariff umbrella generally had higher production costs than their foreign counterparts, mostly because of productivity differences. So cost disadvantages appear to have influenced the tariff-setting process more than anything else. To a lesser extent, the tariff-protected industries showed signs of lacking adaptability to market circumstances and were characterized by low wage rates. The authors infer that concerns over equity may have led to tariff protection in these cases. Also of interest is that industries with high non-tariff barriers generally had high tariffs as well, indicating that those which sought protection usually obtained it in one way or another.

The political process that emerges from this analysis is consistent with the view that government tends to use the tariff-setting process primarily to seek broad-based public support rather than to cater to narrow-based interest groups.

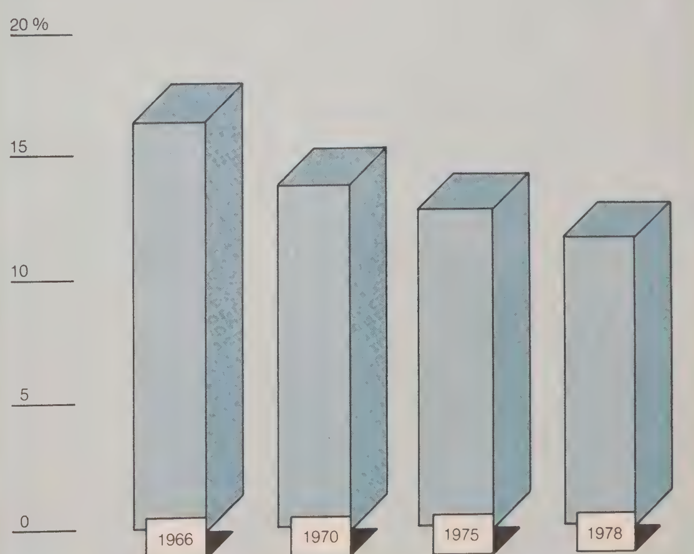
Further evidence

Much of the authors' analysis of the levels of tariff protection in 1966 and 1970 is corroborated by the changes in tariff levels that occurred under the "Kennedy Round" of tariff cuts between 1964 and 1967. Tariff reductions were generally the smallest among the least competitive industries, for example. On the other hand, government may have sacrificed widely based public support in favour of gaining more recognition in the regions – as evidenced by the fact that industries with large numbers of employees experienced more of a decline in tariff protection than so-called "multiplant industries" whose work forces are dispersed geographically. In consequence, the authors conclude that while the "basic economic determinants of the tariff structure have remained relatively stable, the political ones have not."

"The determinants of the Canadian tariff structure before and after the Kennedy Round: 1966, 1970," by John R. Baldwin and Paul K. Gorecki. Discussion Paper No. 280.

Tariffs on imports have declined

(effective tariffs, all industries)



Energy update

Early last year the Economic Council published a thoroughgoing report on energy issues, entitled *Connections: An Energy Strategy for the Future*.

In that report, the Council argued that the time was ripe for a fresh energy strategy with much greater emphasis on economic growth and development. In the Council's view, prevailing federal and provincial energy policies were attempting to achieve too wide a range of objectives, including income redistribution, Canadianization of the industry, inflation control, the financing of public expenditures – and a host of others.

According to the Council, more focused, efficiency-oriented policies would streamline the energy industries, improve the energy outlook, and, ultimately, boost Canadian living standards.

Since the report's publication, some major developments in energy policy have taken place, many reflecting Council recommendations and analysis. Consequently, *Au Courant* is taking this opportunity to recall the key findings of the report and to outline the ensuing policy initiatives.

The Council on oil

In *Connections* the Council expressed two key concerns about the oil situation. First, although Canada was a net exporter of crude oil, it remained a net importer of light oil. Second, the country's established oil reserves had been going down steadily since the late 1960s, while the cost of finding and developing new reserves had been rising.

Research carried out for the Council came up with two significant findings: one, that oil supplies respond positively to price increases or tax cuts; and two, that with the right fiscal policies adequate supplies can be obtained from the Western Basin. These and other results led the Council to recommend the deregulation of domestic oil prices and the establishment of more efficient tax and incentive structures to encourage exploration and development (such as the modification of the petroleum and gas revenue tax – PGRT – to allow the deduction of capital costs).

The Council on natural gas

The Council advocated moving from the prevailing highly regulated pricing and taxation system to the gradual deregulation of natural gas prices. The current but temporary oversupply of natural gas, combined with the massive long-term potential in the Western Basin, would, under a more flexible regime, provide Canadian industry with a sterling opportunity to expand both its domestic and export markets without jeopardizing the long-term security of supply, the Council said.

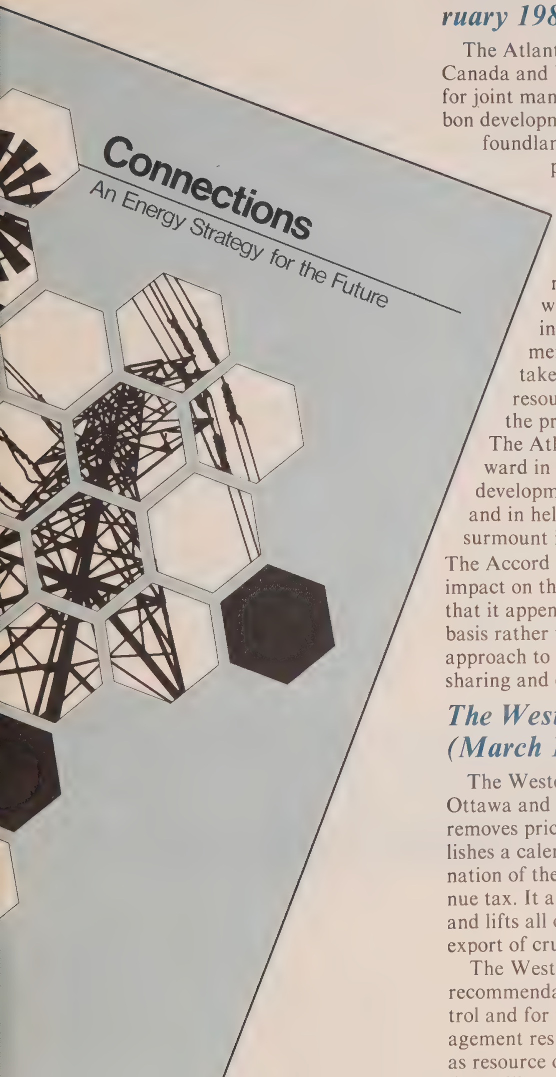
The Council on electricity

In the Council's view, sound economic management of the electricity industry requires a more comprehensive and systematic regulatory framework. Current management practices have resulted in artificially low electricity prices, which slow the development of energy conservation and adversely affect investment decisions. An increase in the average price of electricity would encourage a more efficient allocation of resources in the economy, the Council said. Reforms were also advocated in the setting of rate structures, so that consumers would be charged according to the time of their electricity use.

A new strategy

The Council summed up its analysis by recommending a new energy strategy. The first step towards this goal, it said, lay in settling the contentious issues of resource management and of revenue sharing between the federal and provincial governments. The Council argued that the resource owner (in most cases, the provinces) should manage the resource and collect resource royalties (or rents). At the same time, the Council expressed the view that a share in the resource revenues should be passed on to the federal government, under a broad agreement to establish fair allocation as a cornerstone of the federation. In the interim, the Council said, federal taxes on provincial lands should be made more flex-

ible. It also called for improvements in the federal taxation of federally owned Canada Lands, where it also recommended a change from grants to refundable tax credits.



Recent developments

A number of key developments have taken place since the Council made those recommendations, and some of them are discussed below:

The Atlantic Accord (February 1985)

The Atlantic Accord between Canada and Newfoundland provides for joint management of all hydrocarbon developments off the coast of Newfoundland. It transfers to the province the responsibility of establishing and collecting all royalties and taxes on oil and gas production as though the resource were on land. As well, it slows the reduction in federal transfer payments that would otherwise take place automatically as resource revenues flowed into the provincial treasury.

The Atlantic Accord is a step forward in promoting early development of the Hibernia field and in helping Newfoundland surmount its economic problems. The Accord may have some impact on the equalization system, in that it appends clauses on an ad hoc basis rather than developing a broader approach to the problem of revenue sharing and equalization.

The Western Accord (March 1985)

The Western Accord between Ottawa and the western provinces removes price controls on oil and establishes a calendar for the gradual elimination of the petroleum and gas revenue tax. It also eliminates other taxes and lifts all controls on the import and export of crude oil and oil products.

The Western Accord reflects Council recommendations for oil price decontrol and for the provision of full management responsibility to the provinces, as resource owners. In contrast to the Council's recommended approach, however, it allows the PGRT to continue for a period of three years as a flat tax on production, and it does not deal with the revenue-sharing issue.

The Quebec Budget (April, 1985)

Fewer developments have occurred in the electricity sector over the past year. One initiative that was taken by the Province of Quebec in its 1985/86 Budget was the plan to issue a 10 per cent share on the open market in the equity of Hydro-Quebec. Shares are intended to be preferred and non-voting. This undertaking reflects Council recommendations for improved management of the electricity sector.

The New Frontier Energy Policy (October 1985)

The federal government's new management policy for Canada Lands is generally in accord with the Council's recommendations. It establishes a system of competitive bonus bidding, eliminates the PGRT, and replaces petroleum incentive payments with a more modest system of tax credits, which apply uniformly to all applicants, irrespective of the level of Canadian ownership.

It differs from *Connections* only in that it makes the tax credit partially refundable. The Council had recommended full refundability to avoid discrimination against non-taxpaying companies.

The Natural Gas Pricing Agreement (October 1985)

The Natural Gas Pricing Agreement between Ottawa and the western provinces sets in motion the process of phased gas-price deregulation recommended by the Economic Council. It includes provision for direct price negotiation between buyers and sellers of gas after a transitional period of one year.

Declining oil prices

The Council has analysed the impact of lower world oil prices on the medium-term outlook for the Canadian economy. Its main results are discussed on the following page.

The economic impact of falling oil prices

Falling oil prices are, by and large, good news for the Canadian economy.

In a submission to the House of Commons Standing Committee on Finance, Trade and Economic Affairs, Council chairman Judith Maxwell outlined the probable economic effects of a sustained period of low world oil prices.

Mrs. Maxwell explained that the staff at the Council has been estimating the potential impact of a wide variety of "shocks" or changes in the economic environment, as part of the preparation for its *Twenty-Third Annual Review*, scheduled for release next fall.

When the Council projects the economic outlook, it uses a performance band, which embraces a set of optimistic and pessimistic assumptions. The idea is to portray both the best and the worst that could happen under realistic conditions. The base case assumes no further changes in policy during the period. The performance band in its *Twenty-Second Annual Review* released last October is illustrated in the accompanying chart. It includes a range of cases, from the optimistic to the pessimistic.

The optimistic case is based on the assumptions of low inflation expectations, low interest rates in the United States, and strong investment in Canada. The pessimistic case is based on the view that inflation pressures will be stronger; U.S. interest rates, higher; and domestic investment, weaker. The base case is near the middle of the range. It allows for growth in the volume of activity (real gross national product) of 3.5 per cent in 1986 and an average of 3.5 per cent per year over the period 1985 to 1995. In the base case, unemployment falls to 8.1 per cent in 1990, and the rise in consumer prices averages 3.9 per cent over the five years 1985 to 1990. In brief, the Review projected solid economic expansion in Canada, as long as there were no dramatic changes in the international economic environment.

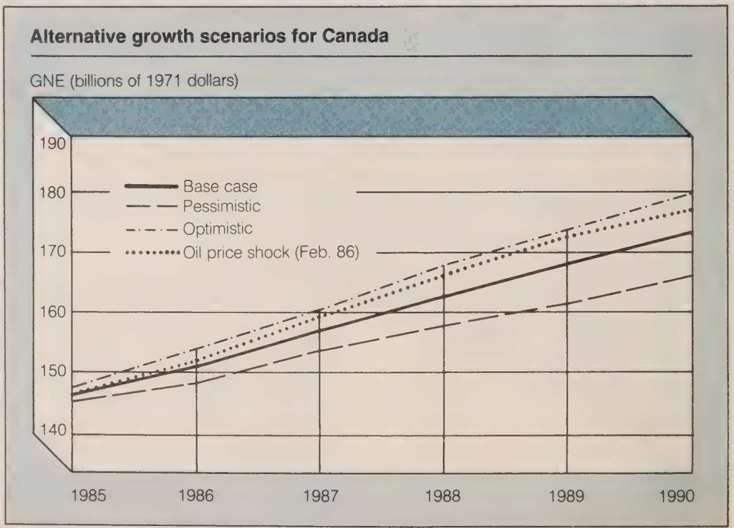
Generally speaking, the economy has been following this projected course in recent months, Mrs. Maxwell observed – although net exports have been somewhat weaker, and business investment stronger, than anticipated.

However, that base case assumed an average international price for oil (delivered to Montreal) of about \$28.50 per barrel in U.S. funds. The Council has recently rerun the base case using an average price of \$19/barrel in U.S. funds for 1986 and 1987, followed by a gradual rise of 1 per cent per year in real terms over the next three years. (In real terms, the 1986 price is still more than double the average price in 1973.)

The results of the \$19 oil price can be summarized as follows:

- By 1990, total output (real GNE) will be 2.3 per cent higher than in the base case outlined above (see chart). This means that the average growth rate for the period 1986 to 1990 accelerates from 3.5 per cent in the base case to 3.9 per cent in the oil-price shock case.
- Employment in 1990 will also be higher, and the unemployment rate will be 7.8 per cent versus 8.1 per cent in the base case.
- The consumer price index will rise by an average annual rate of 2.3 per cent (from 1986 to 1990), compared with 3.9 per cent in the base case.
- The federal budget deficit (on a national accounts basis) as a percentage of GNP will drop to about 3.9 per cent in 1990 versus 4 per cent in the base case. (The loss of revenue from the energy sector raises the deficit during the first two years following the price change, but in the next three years the higher taxes generated by a stronger economy more than offset the loss of energy tax revenue.)
- The current account of the balance of payments will be in deficit in 1990, compared with the surplus in the base case. This is mainly due to the lower prices received for our exports of oil and gas.

Mrs. Maxwell also pointed out that this outlook masks some disturbing structural effects. As one example, she noted that the higher growth and employment will be concentrated in central Canada – Ontario and Quebec – where the majority of energy consumers live and work. In contrast, the producing provinces in the West and the potential producers in the East could experience a setback in growth and employment.



How would Air Canada and CN fare on the stock market?

What would happen if shares in Air Canada and Canadian National Railways were sold to the public?

The two federal Crown corporations would probably be considered an above-average risk, says a recent Council paper by economists D. H. Drury and C. W. Sealey of McGill University. Because riskier ventures demand a better return, the cost to these firms of raising equity would also likely be higher than average, the authors claim. The cost of debt financing might increase as well because of the higher risk of not having it guaranteed by the government.

As both corporations offer more and more commercial services in increasingly less regulated markets, the prospect of privatization increases. With that in mind, the authors attempt to estimate what the total cost of capital would be if the two firms were publicly traded. Part of the answer – the cost of debt – is available from financial statements (though it has to be revalued and other considerations must be taken into account). But the remaining part – the cost of equity – is more difficult to determine, because neither firm's equity is actually traded on the market.

As a result, the authors match the Crown firms with publicly traded companies having similar income trends. These trends indicate a firm's risk/return ratio and its cost of equity. The Crown companies are also compared with firms in their own industries. American firms are used in this case because of the few air and rail companies in Canada.

What they find in the case of CN Rail is that the average growth in its net operating income over the period of analysis (1972-83) paralleled that of the rail industry in general. But the swings in these growth rates were slightly wider than the industry average, suggesting a higher degree of operating risk for CN Rail. Net income (operating income minus interest charges and other expenses) also varied more widely than the industry average, suggesting that the company's financing, as well as its financial structure, gave it a higher-than-average financial risk.

Compared with firms traded on the Canadian market (Toronto Stock Exchange), CN Rail appeared to have a low operating risk but a relatively high financial one. Overall, the firms it most resembled had a higher degree of market risk than the average portfolio of firms in the market. Hence the cost of equity was generally more expensive for these firms and could be expected to be higher for CN Rail as well. "Share equity is not a cheap form of financing to this firm," the authors maintain. Together with the cost of debt, the total cost of capital over the period of analysis – had the company been traded publicly – would have averaged 10.5 per cent.

For Air Canada, much of the analysis is similar, though growth in its net operating income remained below that of the airline industry. Because it resembled those Canadian firms having an above-average degree of market risk, it too would have had to pay a higher-than-average return on its equity. "Share capital is relatively expensive given the operating and financial risk of the company," the authors conclude. Had Air Canada been traded publicly, its overall cost of capital would have averaged 10.9 per cent over the period of analysis.

In both cases the authors warn that the figures from their analysis "should be considered as groundwork and not the final results," given the assumptions about each firm's performance, the prevailing economic conditions, and the constraints on the data analysis and the methodology. Even so, their findings suggest that "if privatization is regarded as a costless or cheap form of raising capital, then there are serious doubts" about taking this step without considering substantial restructuring of the companies.

At the same time, they are in favour of a more "hands-off" approach to the funding of Crown corporations, as this would allow decision making aimed at maximizing the value of the corporation. That requires managing the corporation "as if, indeed, the shares did trade," the authors conclude.

The government, if it has social objectives such as maintaining unprofitable air routes into remote communities, should subsidize those activities separately from the commercial operations of a Crown corporation rather than provide overall assistance such as preferential interest rates. This type of "cross-subsidization" can lead to inefficiencies in both instances, the authors point out.

"A study of issues in government enterprise finance with applications to Air Canada and Canadian National Railways," by D. H. Drury and C. W. Sealey. Discussion Paper No. 292.

B.C. forest regulations need an overhaul

Forest regulation in British Columbia could be leading to "costly distortions" in the industry, a new Council study indicates.

As it stands, the regulatory framework may impede economic efficiency and inhibit investment in the industry, as well as underestimate the true value of the resource base, says University of Alberta economics professor Michael Percy, in research carried out for the Council's project on the Western Canadian economy (*Au Courant*, vol. 5, no. 2).

As regulator and owner of the forest base, the B.C. government allocates harvesting rights, determines how many trees can be cut (the "allowable annual cut") and the appropriate harvesting age, and collects revenues, mainly through "stumpage fees" (the price of standing timber). Its objectives include maximizing the value of the resource base and making sure it yields an uninterrupted flow of timber over time, so as to protect jobs and incomes in the province. But current policies may prevent those goals from being achieved, by placing too much emphasis on physical rather than economic criteria. The result, Percy suggests, is too slow a harvest of mature timber and too long a rotation period of second-growth stands.

To make sure existing timber stocks are not depleted before new ones are ready, for example, the allowable annual cut of mature timber is restricted in most regions to a small percentage of the total. Evidence shows that huge quantities of this timber occupy some of the most productive sites in the province. By failing to harvest and replenish these sites, the province forgoes millions of dollars in annual revenue. In some cases the forest loses value through aging and other natural factors. Percy argues that future generations might be better off if more of the forest were harvested and the increased government revenue invested, keeping in mind the need for reforestation and conservation of the environment. "We may have maintained too large an inventory of timber," he suggests.

At the same time, rotation periods are structured to ensure that the maximum amount of wood is harvested. This approach fails to reflect the influence of timber prices, discount rates, and harvesting costs. It also results in the loss of potential income, both from current harvests and from delayed future harvests. The main policy goal, Percy explains, should be to maximize the value of the forest base instead of the volume of timber it produces through time.

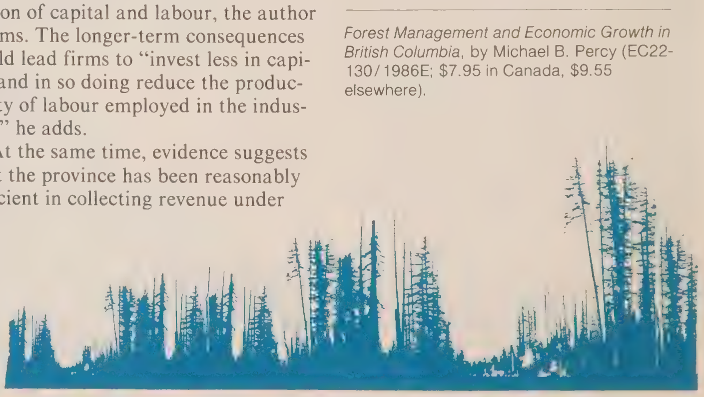
Possibly the most effective way to increase future timber supplies is by launching an intensive forest management program right away, Percy says. Such a program would involve treatments to improve forest productivity, such as forest protection, backlog reforestation, and research aimed at producing genetically superior trees. Current policies may not be as successful as they could be in this regard, partly because those who bear the costs of forest management in some cases do not reap the benefits. Also, private investment decisions are not likely to take account of such "non-timber" benefits as the protection of wildlife habitat, the prevention of soil erosion, and better water flows. Thus the province should ensure that all private forest-management initiatives are fully compensated, possibly by establishing a heritage savings fund to maintain a steady stream of investment subject to normal investment criteria, Percy maintains.

The way in which the province values the resource base, through what is called the "stumpage formula," may lead to serious inefficiencies in the allocation of capital and labour, the author claims. The longer-term consequences could lead firms to "invest less in capital and in so doing reduce the productivity of labour employed in the industry," he adds.

At the same time, evidence suggests that the province has been reasonably efficient in collecting revenue under this formula. But even greater efficiency might be possible in the absence of regulatory distortions, Percy notes. Recent claims that low stumpage rates in B.C. constitute an export subsidy for firms in the province is "economic nonsense," he asserts. Failure to collect the maximum revenue simply leaves more money in the hands of producers but does not subsequently encourage them to increase production and hence exports. The author also says the industry would experience a net gain in its overall growth with the removal of government restrictions on the export of unprocessed logs.

In addition to regulatory bottlenecks, the industry must contend with market forces that are beyond the control of policy makers. Percy develops a model to simulate the impact of such major shocks on the industry as a decline in world softwood lumber prices, the imposition of duties on exports to the United States, and a "falldown" in the allowable annual cut (a decline in the timber harvest that may accompany the shift from mature to second-growth sites). These scenarios – which "highlight the critical importance of the forest industry" to the B.C. economy – would bring about a significant decline in real incomes in the province and a contraction in overall economic activity, he reports. In fact, the likelihood of a falldown and of reductions in the productive forest base depend in large part on whether the province institutes more-efficient forest management policies to prevent such occurrences, the author concludes.

Forest Management and Economic Growth in British Columbia, by Michael B. Percy (EC22-130/1986E; $7.95 in Canada, $9.55 elsewhere).



A look at Quebec's Caisse de Dépôt

Quebec's pension fund investment agency may not be getting the best return on its investments, possibly because of a conflict in its mandate.

About half the value of the portfolio held by the Caisse de Dépôt et Placement du Québec is concentrated in a handful of companies. That means the risk of earning a return is higher than it would be if the total value were spread across more firms. Because the portfolio's overall earnings do not reflect stock market trends in general, it suggests that the Caisse's stock holdings may not be "efficiently diversified" – with the result that it bears too much risk in light of expected returns, says a recent Council paper by economist James E. Pesando of the University of Toronto. (He cautions, however, that the portfolio's actual performance cannot be judged inferior on this basis.)

The paper looks at the investment activities of the Caisse and the Alberta Heritage Fund, and discusses the impact of legislative changes on the efficiency of those activities.

The Caisse is funded mainly by contributions from public-sector pension plans, Pesando explains. Though it seeks a profitable return on private stocks, government bonds, and other investments, its secondary concern is to support economic development in Quebec. These aims are in potential conflict with one another, Pesando argues.

For example, the Caisse might not earn the best return were it to make an investment in order to support a certain industry rather than to make a profit. Similarly, if the Caisse purchases sufficient shares in a firm to give it management control or influence, it could effectively promote economic development without necessarily having acted in a profit-maximizing manner.

Many investors believe the Caisse may seek to alter real investment and other management decisions of the firms whose shares it holds.

Whether or not this is the case, many investors believe that the Caisse "may seek to alter real investment" and other management decisions of the firms whose shares it holds, Pesando finds. That perception could reduce share values and raise investor risk in the marketplace, subsequently increasing the cost of equity (investment) capital and dampening the prospects for economic development. It is "virtually impossible to determine if this has occurred," Pesando concedes. But on two occasions the price of shares in Domtar Ltd. temporarily fell sharply when the Caisse announced purchases in that company.

As a result of his analysis, he theorizes that pension contributors and taxpayers in general may in fact pay for subsidizing private debt without receiving any direct benefit. In some cases taxpayers may also bear the cost if public-sector pension funds accept a below-market return on their investments.

The case of the Alberta Heritage Fund is somewhat different, Pesando writes. The fund does not invest with risk/return considerations in mind, except for a small equity portfolio managed exclusively for that purpose. In this instance, it does not seek management influence or control; it has the diversification of its holdings as an explicit objective.

The debate over the recent unsuccessful federal attempt, through Bill S-31, to limit provincial ownership in certain transportation companies has been "somewhat misdirected," Pesando continues. Claims that it would have prevented public-sector agencies from holding efficiently diversified portfolios are unsubstantiated, while the impact on the companies whose shares are the target of such legislation "is likely to be minimal, so long as these shares are actively traded," he maintains. Concern over its effect on the use of non-voting shares is unwarranted as well, he adds.

Pesando also finds that raising or eliminating the 10 per cent limit on investing in foreign securities would enable pension funds to earn a higher return for a given risk, without any adverse effects. More generally, he finds no economic grounds for exempting the Caisse and other public agencies from federal and provincial company law and securities legislation. In fact, their exclusion has, in some instances, given them a cost advantage.

Finally, using the Canada Pension Plan as an example, Pesando illustrates how public-sector pension funds might be invested more efficiently by allowing private-sector employers who collect the contributions to invest the surplus funds. Though decentralizing the system would be complex, it would be the most effective way to separate political considerations from investment decisions, he concludes.

"An economic analysis of government investment corporations, with attention to the Caisse de Dépôt et Placement du Québec and the Alberta Heritage Fund," by James E. Pesando. Discussion Paper No. 277.

S·P·E·A·K·I·N·G · O·U·T

Shock waves rippled through Canada's financial sector in 1985 as two regional banks failed, several others suffered a flight of deposits, and a few trust companies collapsed. At the same time, financial institutions continued to diversify outside their traditional areas, and financial conglomerates grew in importance on the financial scene.

A number of government and private-sector studies of the Canadian financial sector have been undertaken recently, including the launching of a major report by the Economic Council of Canada. The Council report is expected to be released in the fall. To find out more about it, *Au Courant* interviewed project director André Ryba.

Au Courant: *Why is the Council studying financial institutions?*

Ryba: There have been some dramatic changes over the past five years in the way financial institutions operate and in the organization of the financial sector. The traditional distinction between what we call the "four pillars" of financial activity – banking, life insurance, trust, and securities activity - is eroding. These various groups of financial institutions are attempting to diversify across institutional lines. Financial holding companies – as yet unregulated – have emerged, and new financial instruments and practices have been developed. The regulation of the financial sector has not kept pace with these changes. In the process, some institutions have encountered serious financial difficulties. Obviously there is a need to look at the stability of the system and the protection afforded consumers and investors.

André Ryba

It would be wrong to stifle growth and development by attempting to ensure that no institutions fail.

Au Courant: *How will the Council's report differ from the other studies that have been carried out recently?*

Ryba: Most of these studies have failed to look at some basic questions in a broad framework. Many of them have come to different, and sometimes contradictory, conclusions and recommendations. We developed a simple tabular overview to demonstrate this point (which is available on request). What our report will do is take stock of the issues and recommendations that have been brought to light in the current debate. It will provide an analytical framework within which all the issues and recommendations can be assessed, and it will add some suggestions of its own. Starting with the role and objectives of the financial system, it will spell out the conditions under which that system can operate efficiently. The report will focus on the need to strike a balance between two of these conditions – competition and solvency. This should be a major policy goal.

Au Courant: *Isn't there a trade-off between these two conditions?*

Ryba: Yes, there's definitely a trade-off between competition and solvency, but not between efficiency and solvency. In fact, a financial system in which there is no confidence cannot be an efficient one. In the quest for efficiency we need to have solvency. You are not going to entrust your savings to a bank unless you are confident that you will be able to withdraw the funds with interest at a later date.

Of course, there are other trade-offs as well. For instance, we do not want financial institutions making questionable or potentially harmful transac-

tions. But we also do not want to prevent them from reallocating their funds efficiently. There is a trade-off between making sure that conflict-of-interest abuses do not occur and creating a regulatory environment that prohibits the free flow of information vital to investors in their day-to-day decision making.

Au Courant: *How do you know where to draw the line?*

Ryba: This is difficult. From one perspective, we should not have a system that is so fail-safe that innovation and growth are discouraged and financial institutions are prevented from entering uncharted territory because of the risk of failure. There are bound to be failures in the course of doing business. I do not think that this undermines the system, so long as depositors are well protected. It would be wrong to stifle growth and development by attempting to ensure that no institutions fail. We need a system that is flexible and adaptable, one that can respond to market changes.

The report will focus on the need to strike a balance between competition and solvency.

Au Courant: *What are some of the causes of change in the financial sector?*

Ryba: There has been pressure from competition, technological developments, and the move to a less regulated society in other sectors of the economy. Many of the changes have come in response to the performance of the economy. The recession of the early 1980s – the most severe that Canada has experienced since the Great Depression – brought hardships for many businesses, which in turn affected the financial sector. Some institutions lost their traditional niche when the long-term securities and deposit markets dried up as a result of escalating inflation and increased interest volatility.

At the same time, the consumer has become much more sophisticated, partly in response to the high inflation of the late 1970s. Long gone are the days when consumers would blindly invest their savings in a 3 per cent deposit account. The emergence of two-family incomes has had a profound impact as well. Families have more money but less time; some may want the convenience of one-stop shopping, where they can get a mortgage, home insurance, and life insurance under one roof. Institutions have to offer these types of diversified services, but the regulatory environment in many ways prohibits them from doing so. Investment dealers cannot really offer banking services; trust companies do not have full access to the commercial lending field; commercial banks are not allowed in the life insurance underwriting business, and so on. To by-pass these restrictions, we have seen the development of new financial practices and instruments, and the emergence of financial holding companies that operate in a totally unregulated environment.

Part of the problem is that there has never been a complete overhaul of financial legislation, only piecemeal reviews.

Au Courant: *What are some of the problems involved in bringing about regulatory changes?*

Ryba: Part of the problem is that there has never been a complete overhaul of financial legislation, only piecemeal reviews. We review the Bank Act every 10 years or so. In the 1967 review the banks were allowed to enter the mortgage field, which until then was the traditional niche of the trust companies. But the trust companies have not seen their legislation change. We have to be careful not to give an advantage to one group without considering the interests of the others, and indeed there have been a lot of complaints in this area.

This problem is exacerbated because in any attempt to review financial legislation we can have up to 11 jurisdictions involved – Ottawa and the 10 provinces. In some cases, the process is relatively simple. Banks, for example, are primarily a federal responsibility. But many other financial institutions – trust companies and life insurance companies, for example – come under both jurisdictions. It has been suggested that we regulate by function instead of by institution. But any solution will require some agreement between the two levels of government, so that we can develop a consistent regulatory framework.

Au Courant: *What role can the Council play in bringing this about?*

Ryba: I think there is an opportunity for the Council to act as a disinterested third party in the process of legislative review.

There is a need to look at the stability of the system and the protection afforded consumers and investors.

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